STRUGGLE

The Life of Commander Byrd

By Charles J. V. Murphy

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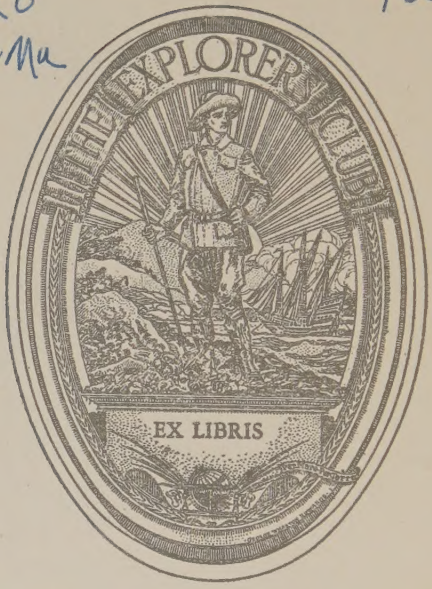

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Captain H. H. Bailey

with my best wishes

Charles J. V. Murphy

Nov. 23, 1925

Underwood and Underwood

Commander Byrd and the late Floyd Bennett wearing the Congressional Medals of Honor conferred for the North Pole Flight.

STRUGGLE

THE LIFE AND EXPLOITS OF COMMANDER RICHARD E. BYRD

BY

CHARLES J. V. MURPHY

"Let them close all passages of earth and sea,
The heavens are open and it will be
Through these that we shall pass."

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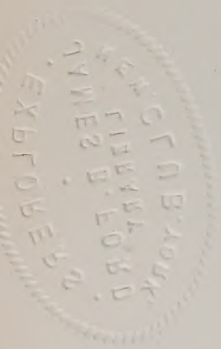

Printed in the United States of America

DEDICATED TO

RICHARD EVELYN BYRD, JR.,

WHO IS GOING ON NINE, AND WANTS TO
KNOW WHY HIS FATHER IS ALWAYS
GOING AWAY SOMEWHERE.

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FOREWORD

One of the greatest enjoyments of my life has been my friendship over the past five years with Dick Byrd, and I will never forget the day that we became friends.

One morning in the early spring of 1924 Byrd arrived at my office with a letter of introduction from a friend of mine in Washington. He had come to see if I would become interested in helping finance a flight to the North Pole. This was three years before the long spectacular flights by aircraft had come to the attention of the public and, of course, I had to ask a lot of questions about his purpose and plans, but by doing so I was immediately impressed with Byrd's intimate knowledge of the problem, his enthusiastic personality, his kindly nature and his intense interest in what he was about to undertake. It did not take me long to agree to help him, and I have never regretted it. He impresses me as one who will always succeed in what he undertakes. His careful preparation, attention to details and his splendid ability to select personnel are such important requisites in the work that he is in.

I have been asked what Byrd is trying to do, what it is all about, and my answer has been that, first of all, he was born to explore; his whole interest is in the unknown. He would never be able to give that up. Secondly and most important, his exploration has always been on a highly scientific basis. The information he brings back from his various trips is for the benefit of mankind.

I remember asking him one day about the purpose behind the South Pole trip. His answer was complete. First, there is an area, the South Polar Continent, which is one and a half times the size of the United States. It is entirely unknown except for the dash to the South Pole of Scott and Amundsen. He said that one must remember that the South Pole is the center of a vast mountainous plateau in contrast with the sea surrounding the North Pole, and who knows what resources are hidden there. There are undoubtedly minerals of all kinds, perhaps a race of people paralleling the Esquimau of the north, and we of the United States should know something about this. He also said in his characteristic way, "I want to clear up that large white space on the bottom of the globe for the school children."

His present expedition to the South Pole consists of a large scientific staff of men of various specialties, and I know that he will not return until he knows the whole story.

Dick Byrd is one of the finest of men, and it is fortunate that he has been chosen for this work, as the world will surely benefit.

EDSEL B. FORD.

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CHAPTER I

BYRD THE MAN

BYRD is essentially a mystic, deeply concerned with the meanings of life. It is not inconceivable that, had his life trend been guided into less athletic paths, he might have been a poet. But surely not of the hot-house variety. For there is in Byrd, unlike the carefully nurtured type of mystic who holds forth in lectures before Ladies' Clubs, a singularly intense passion for iron facts. That is the scientist in him. From this trait he draws the impetus that causes him physically to attain his contemplative horizons, to translate into muscle the concepts of his mind.

He flew to the North Pole because only one man—Peary—had been there before; because he wanted, as he had planned since he was twelve years old, to become a leader among those gallant polar explorers who, in the words of the brave and ill-starred Sir John Franklin, had struggled northward, for four centuries, "to extend the boundaries of knowledge." Yet, a year later, simply to prove that aviation had opened a new and practical route to world commerce, he commanded the giant monoplane *America* in a flight to France.

Now he is studying the Antarctic with the mightiest machinery for exploration ever assembled, the mere organization of which is a tribute to his multisided

genius. In reaching the South Pole and carrying out the program of mapping the extensive "white spaces" at the bottom of the world, which heretofore have baffled cartographers, he becomes the only man living who has seen both ends of this earth on which ten billion live. For the distinguished Amundsen, the only other to accomplish this, has been given up for dead, having vanished in a rescue quest for the crew of the wrecked polar dirigible, *Italia*. It seems inescapable that Byrd shall return as one of the most famous men of his time, and assuredly as one of the most famous explorers of all time.

But fame of this sort really means nothing to Byrd. Detesting the ballyhoo that came with the ripening of his career, he has always tried to escape it. To all who will listen, he insists that he is only a scientist, concerned with fact-finding. As well might he try to shout down a soaring airplane. The legend has flourished too well.

Commander Richard E. Byrd was born at Winchester, Virginia, on October 25, 1888, the second son born to Richard Evelyn Byrd and Eleanor Bolling Flood Byrd. The first son, Harry, is now Governor of Virginia. A third came a year after the birth of Richard. His name is Thomas. The three, without doubt, are the most famous citizens of that illustrious State.

It is not difficult to understand whence the second son derives the impulse that propelled him into fame. On both sides of his family, his blood can be traced through parallel lines of statesmen, merchants, soldiers, seigneurs and gentlemen whose careers have been synonymous with the development of the state and nation. The Byrds have always been mainsprings in the inner workings of Virginia.

Although the Byrds trace a lineage directly to King Henry of Navarre, the settlement of the family in Virginia alone concerns us here. The two centuries of gallant living, of high emprise, of romance and tragedy, that followed, prepared the way for the conquest of the unknown areas of the world by the most spectacular of the Byrds.

The first Byrd to come to Virginia was Colonel William Byrd, later known as William the First, nephew and heir of Colonel Thomas Stegg. He inherited the estate, the ships and the slaves, of his uncle who had received a great grant of land on the James River from the King, and forthwith went about building the family that for one hundred years was to rule over Virginia. A wild and thriving stream was the James River in those days. Civilization paused on its banks, and drew subsistence from the few little wooden sailing ships that drifted in from the Old World, bringing calico, silks, snuffs and laces, soaps and shoes, and tons of knick-knacks to be traded to the Indians.

A keen merchant was William the First, vigorous and determined, but even in this wilderness strongly bound to the culture of old England. He traded in slaves, rum, molasses, anything that would find a market among the Indians. His post was at the last fringe of civilization: his couriers plunged into a virgin wilderness to bring his goods to Indians who were "sales resistant" in a fashion never encountered by salesmen of to-day. Still, his business thrived and he became in time the seigneur of the land.

Not long after his uncle's death, William the First married the daughter of Colonel Horsmandan of Kent, a direct descendant of King Richard III and a cavalier who had taken to his heels when Cromwell set about exterminating the followers of King Charles. He

settled in Maryland and lived there, to the best of his ability, in the elegant manner to which he was accustomed. His daughter, Mary, gave to William the First three children: William the Second, Ursula and Susan.

The day that William the Second—it was in 1690—sailed for England, to be educated and trained, was a great one in the colony. A long and dangerous voyage lay ahead of him—three months in a wooden ship on stormy seas. Down to the wharf, laden with strange goods of commerce, came the family: the servants with wet eyes, the father proud, the mother weeping. William the Second, not yet ten years old, stood erect on the deck, and as the ship poked out of Jamestown he saluted gravely. The first Byrd born in the New World was off on distant errand bent.

Now old William the First settled down to elegance. He purchased a great tract of land and started the building of a magnificent home on the banks of the James. He named it Westover, as a token of his esteem for the West brothers, Lords Delaware, who originally owned the land upon which it was built. Although he began its construction in 1690, forty-five years were to pass before it was completed. Twice it was razed by fire. Nor was it finished until William the Second came back from England and took up the tasks of his father.

To-day Westover remains one of the show places of America, a huge, rambling mansion honeycombed with hiding-places and secret passageways, full of priceless relics and furniture, a monument to the delightful taste of the old gentleman.

His son, William the Second, who won a Colonelcy by sheer skill of arms, is probably one of the most glamorous figures in Virginian history. A more gallant soldier, delightful host, brilliant wit did not live

in those swaggering days. He was wealthy enough to support a company of soldiers, five hundred strong, to protect his estates from plundering Indians. But the life of a landed seigneur was not zestful enough for him. With a band of adventurous souls he plunged into the wilderness, explored the dank and dismal swamps, mapped out the Virginia-Carolina boundary line, and founded the city of Richmond. Is it not a singular fact that, more than two hundred years later, his descendant, Harry Byrd, sits as Governor in the executive mansion built on the very same ground he gave the State?

William the Second was a handsome fellow, slender, lithe and graceful, not unlike his descendant who now explores the skies. He married twice. His first wife was Lucy Park, daughter of an aide-de-camp to the Duke of Marlborough. She bore him a daughter, Evelyn, "the fairest flower" of Colonial Virginia, whose love story has a wistful Old World fragrance.

When she was presented at the Court of St. James, she met the gallant Earl of Peterborough. They fell in love and became engaged to be married. But when she returned to Virginia, William the Second flew into a rage. The Earl was a Catholic. He must never marry the daughter of a loyal Church of Englander. So the lovely Evelyn died at thirty of a broken heart. Of suitors she had many, but she spurned them all. The diamond that the Earl of Peterborough gave her has come down to Commander Byrd, who bears her name, and from his wife it will pass to his son, Richard Evelyn Byrd, Jr., to be given, as is the family custom, to his bride. It is a beautiful ring of old white gold, worn thin on many beautiful hands, and set with diamonds.

His second wife was Maria Taylor, and of that union was born the unfortunate William the Third.

A genial host, indeed, one of the most extravagant hosts in the Southland, he had little or no comprehension of business matters and it was not long before he had lost, through debt and ill-managed expenditures, the vast estates accumulated by his wiser ancestors. Moreover, he was a loyal subject of the Crown. When Revolution raced through the Colonies; when his friends rose in arms against the King; when even his own brother joined the Patriots, and the regiment he had founded to assist the King in ruling the Indians mouthed revolt—it broke his heart.

Two of his own sons were officers in the armies of King William the Third. By God, he would crush this revolt! But his protesting voice was lost in a great clamor of sedition. The War rushed upon him. Saddened, crushed, he died by his own hand on New Year's Day, 1777, convinced that the Colonies had betrayed their heritage and brought about their downfall.

It is now 1805, and we find another Byrd in a distant corner of the world, barely more than a hundred years after William the Second set out so boldly for England. It is Francis Otway Byrd, son of Thomas Taylor Byrd, who is boldly fighting the pirates that have been ravishing American merchant ships. A splendid soldier, he rose to the Lieutenant-Colonelcy of the Third Virginia Dragoons in the War of 1812. For these exploits Virginia later presented him with a gold sword.

His youngest son was Richard Evelyn Byrd, great-grandfather of Commander Byrd. He came out of Texas with his son, Colonel William, to fight for the Confederacy. He was on the staff of General Corse, and saw the day when the hated northern General McClellan made his headquarters on the lawns of beloved Westover.

The Civil War marked the change in the tide of the Byrd fortunes. The family purse was exhausted, the great tracts of lands in the hands of others. But the will of its men was never broken. To Winchester, two hundred miles from the ancestral place at Westover, Richard and his son moved, there to rebuild the family fortunes.

No less glamorous was the line on the mother's side of the family. Descended from the Lords Delaware, it is her not infrequent retort, when the Byrds joke about their ancestry, that her own ancestors sold the Byrds the land upon which Westover was built. As in the case of the other branch of the family, the Civil War reversed their fortunes. Her father, Major Joel Flood, was a loyal Virginian. Believing that it was the patriotic thing to do, he exchanged all his moneys, some five hundred thousand dollars, for Confederate currency. Years later, his grandsons were to play with great stacks of the currency—trunks full of it forgotten in the attic.

Her grandfather was Charles J. Faulkner, Minister to France under Buchanan and Lincoln. He, too, was a staunch Southerner, although he did not approve of slavery. When the States seceded, he sorrowfully informed Lincoln that he must follow the sovereign State of Virginia. The President answered in a tone as sorrowful: "It is a great loss to the country, but I respect the sincerity of your convictions." Faulkner served as Adjutant General under Stonewall Jackson. It is interesting to note here the esteem in which President Lincoln must have held him. During the war a Federal General was about to fire Boydville, the mansion of Commander Byrd's great-grandfather. Faulkner's wife, the daughter of General Elisha Boyd, telegraphed Lincoln and begged him to have the house

spared. At once he ordered his General to abandon the idea, and the mansion was not molested.

General Faulkner's son, Charles J. Faulkner, speedily followed the steps of his father in the reconstructed Government. Old animosities forgotten, Charles went to the United States Senate. And Mrs. Byrd's only brother, Henry Delaware Flood, served in Congress for twenty years, and upon him fell the honor, as chairman of the House Committee on Foreign Affairs, to read the declaration of war against Germany.

Commander Byrd's father, Richard Evelyn Byrd, married Eleanor Flood in 1886. The three sons they brought into the world have, within the space of two decades, revitalized the fortunes of the family. First of all, there is Harry, Governor of Virginia, who left school at the age of fourteen, took over a failing newspaper at fifteen and made it a going enterprise: who fought off tuberculosis in the mountains and six months later returned to Virginia and rushed into a life of politics, business and success. He and the youngest brother, Tom, who quit law to join him in business, are well on the road to wealth. Beginning with the purchase of a few orchards, they have become the foremost apple growers in the State. Harry is only forty-two years old, but his progress has been great. Only this year he rejected a tentative offer of the Democratic nomination for the vice-presidency.

And finally there is Dick—the fourth Richard Evelyn Byrd of the line—strangely fulfilling, in a manner unmatched for brilliancy and range, the wanderlust that has inspired a Byrd at every turn of the century.

More perhaps from some unfathomed impulse that lies dormant in the line during the "between" years, and then flourishes suddenly as it did in the souls of William the Second and Francis Otway Byrd, than from his

father, did Commander Byrd gather the momentum for exploration that actuates him. Richard Evelyn Byrd, Senior, was hardly the explorer type. Rather he was the Victorian seigneur, delighting in the joys of his own home and hearth; deeply philosophical and restrainedly aloof; contemptuous of wealth and position; inclined to be careless of dress. One might gather from this that he was democratic. Not at all. He was so aristocratic that the fact of his being aristocratic did not occur to him.

Unlike so many gentlemen of the indolent aristocracy of the South, he was not weakened by the vices that prevailed toward the end of the reconstruction era. In a scholarly, subdued sort of way, he was vigorous and alive. He was not a tall man and he had the courage of ten. He was prosecuting attorney of his county for twenty years, a job that called for no small amount of calm daring. Seldom did a year pass without some fierce feud between the savage mountaineers, and few attorneys relished the idea of taking sides in a judicial settlement of the right or wrong involved. The fingers of these childlike hillbillies rested too lightly upon triggers.

But Byrd permitted no such fears to overtake him. When the laws of the State were broken, he would saddle his horse and ride off into the mountains. One time a very vindictive outfit of moonshiners shot up an entire court, judge, clerk and sheriff, and then spread the word that the same whole-hearted reception awaited any other law-maker or arbiter who came into their hills. News of the shooting reached Byrd while he was eating breakfast.

He did not hurry. He drank his coffee slowly, carefully folded his napkin and then announced to his wife: "I guess that I shall go up there at once."

She was frightened, urged him not to go. His

friends advised him to wait a while until hot blood cooled.

"Blood has been hot up there altogether too long," he replied. "It is time that it be cooled by legal refrigeration."

He went alone, declining a proffered escort. So when this little man rode into the mountains in his buggy and calmly announced he would hold court, there was not a little amazement. Half a hundred members of the family of the murderers came to court, partly in curiosity to see how far this man would dare to go, partly to be certain that "justice" was done. Of course there were others who were just spectators who had missed the extermination of the first court and did not want to miss another. All in all, it was almost a "movie" setting—wagons parked outside the courtroom, tall gangling mountaineers in hip boots, slouch hats, rifles hanging loosely from crooked elbows, and slatternly women. There was a touch of the carnival to it.

It became apparent that Byrd meant business. In an unhurried, cool voice that stilled the buzzing courtroom, he called the court to order, questioned all witnesses with a speed and dexterity that balked evasion, fixed his sentences and departed before the slow-witted mountain folk quite realized what had happened. By that time, the extemporaneous riflemen were neatly packed in the county jail.

While he was never irascible, he was not placid. He was inclined to be hot-headed at rare moments. Once, while arguing in court, he took offense at what he deemed flagrant falsification by opposing counsel. He picked up an inkwell and slammed it forthwith at the offending gentleman, knocking him cold. There was some talk that he be tried for offense of court. It soon petered out.

Although he moved in and out of politics during most of his active life, he really abhorred it. The impulse that caused him to enter this field so alien to his intellect was quixotic. Too many young people were drinking in the State, he was convinced. So he wrote the Byrd Liquor Law, providing for local option, and ran for the Legislature to insure its passage. He was victorious, and during the next session he was elected Speaker, an unprecedented honor in the history of the Virginia Assembly. For three consecutive terms he held that important post, and then he abruptly quit politics. The "hoorah" and the backslapping inherent in political contests were abhorrent to him.

Although strong pressure was brought to bear to make him run for Governor, he stubbornly declined. He refused to join the state machine, then in the very capable hands of his brother-in-law, Henry Delaware Flood. Not until that idealist, Woodrow Wilson, became a presidential candidate did his interest in politics revive. Then he fought the machine, which favored Champ Clark, whipped it to a standstill, and delivered the delegates to Wilson. Wilson subsequently prevailed upon him to accept the post of Assistant United States Attorney General and later United States Attorney General for the southwestern part of Virginia, and he accepted the designations out of a sense of civic duty.

He was above all else a man of simple tastes, a scholar, with a love for peripatetic discourse. It was his wont to wander into his club, the Westmoreland, in Richmond and there hold forth for hours in discussion of literature, the arts and sciences. His mind was like a quick, flashing light, and few could match it in open forum. He was deeply and versatilely read. Each day, almost up to the time he died, he spent from two to three hours in study.

Yet he is the only scholar I know of who, at the age of sixty, was able to chin himself four times with only one hand, and a moment later quote passages of Dante. His was a blotting paper memory. And he was a good citizen. When the World War came, he made it his own task to see that every Byrd within reach was in the army. Those who were reluctant to join at once, he threatened to arrest. Being the Federal Attorney, he had that power.

From the father, then, Commander Byrd inherited much of the strength of character, the quiet courage, the aloofness and patrician democracy, the love for the humanities, that each possesses. To his sons, the father allowed free rein in the choice of career and study. In one direction, Dick followed the father furthest.

By the time he was sixteen years old, he had read all the classics with which his father's bookshelves abounded. He was an earnest student of history, particularly Roman and Greek history, and the equipment of his mind on facts and inner significances of changes often astonished the father. Particularly was Dick Byrd, Jr., absorbed in mathematics, and from this study he entered into philosophy. The collection of books on philosophy he started as a boy has now grown into a huge library. Even as a youth, time and change were the problems with which his mind grappled—perhaps a natural preoccupation of the adolescent mind. At seventeen, he wrote a most involved essay on Time and Space, which, like most of the higher thoughts he has placed on paper, he preserved as a secret. Yet two years later he recorded in his diary:

"I need not have been ashamed of my views on time and space. I have just finished reading Kant. In his analysis of time, although in inexpressibly broader and more involved mathematics, he has developed his

theory in a manner not unlike my own. Still, I have reached a conclusion. If a great mind like Kant must confess, after years of study, that he is bewildered by the awful greatness of cosmic forces, I am foolish to keep trying. I shall forget it for a while."

He never did. Ten years later, when he took post-graduate courses at Harvard, that esteemed student of philosophy, Dr. Hocking, urged him to stop reading philosophy. "You have a new idea," he told him. "Develop your own thoughts, and avoid the ideas of others, for you will instinctively absorb their thoughts and destroy the freshness and inventiveness of your own."

He had already written, later, a book on philosophy. Several years later, when he first stood on the threshold of fame, a publishing house, one of the oldest and most conservative concerns in the country, having heard of the manuscript, tried to obtain it. He refused to permit it to leave his hands. Twelve years, twenty years from now, he believed, he might recast his ideas entirely.

I bring this out simply as an unrecognized side of Commander Richard Evelyn Byrd whom the reading public, due to the necessary flourishes of journalists, tends to recognize simply as the first dashing scientist of the air. He is actually a most serious man with a rare capacity for complete absorption in his work. Exploration is the passion of his life, and the airplane in his mind has become an instrument of almost spiritual power in demolishing the barriers to the unknown.

"When the first life in the form of minute protoplasms floated willy-nilly on the dark seas that covered the earth æons ago," he wrote, "it seemed to yearn for mobility. Gradually as the ages wore on it developed and transferred itself by some divine process

to the low lands, the hills and the mountains, and finally, feathered and streamlined, took to wing and soared skyward. Nature itself, in smiling on the swift, appeared to encourage this instinct for motion that life possessed.

"Even the plants whose roots went down into the dark earth sent their beauty, their spirit, upward into the light toward the sky, and with that same divine process, their seeds took wing and soared to the hills and the mountain tops.

"But of all life, it is man who has had the deepest yearning for mobility. It is man whose spirit has yearned for the light that shines somewhere above the earth. Slowly, patiently, with untold sacrifices, the past has gained victories, step by step, in extending its mobility until at last—to-day—man can move and fly faster than the birds, and as he soars above the earth he catches glimpses of the future.

"A future that has whetted man's yearning—has made him impatient to fly—to soar out of the twilight darkness of the dawn. The airplane is at once an instrument and a symbol—an instrument of progress and a symbol of man's mastery of the earth and his high hope that he may gain mastery of his fate."

Byrd has repeatedly rejected offers to enter business that would have made him a wealthy man simply because he "yearns for mobility" and because he yearns for the permanence of posterity. The twentieth century has opened a great door to Eastern and Western civilizations, he feels, and as the years go by he is convinced that the door will open wider, and the course of the peoples of the earth will change. That new channel is communication. He believes that communication, faster communication, means a swifter, more efficient distribution of ideas and understanding. The airplane, being the most mobile of all carriers, must

hasten this international understanding, bring peoples into harmony, become more "an instrument of peace and commerce than of war."

He has indirectly made his career the speeding of that impulse toward international fellowship. How sound is his judgment the future alone can tell. At this moment in its history, the airplane seems to be able to carry the olive branch and the machine gun with equal facility. When Lindbergh and Byrd flew to France, they carried a cargo of goodwill in their cockpits. Yet only a year later, London managed to achieve a vicarious terror over the theoretical demolition of the city by bombers from the air in a series of mimic maneuvers that were cleverly designed to be "fear propaganda" for a large military air force.

Still, it is the *idea* that appeals to Byrd's calm mind, the idea of complete understanding correcting the maladjustments of nations, and, as a result of that, a gradual breakdown of chauvinistic boundary lines.

Not easily has he achieved this mobility. His father for years opposed his urge for spectacular flights. He saw neither rhyme nor reason in them. When Byrd went to Etah, Greenland, in 1925, for his first attempted Arctic exploration by aircraft, his father came to Washington to see him off. He did not believe that his son would return alive.

"You know what I think about airplanes," the father told him. "I know that you will go, regardless of what I say. But I want you to understand that I have not changed my mind—that I believe you are undertaking a dangerous and inconsequential career."

A few months later, Byrd Senior died at the age of sixty-seven, carrying to his deathbed the conviction that Dick's "foolish deviltries" would end in sorrow.

Byrd was just fifteen years old when the Wright brothers flew at Kittyhawk. He was twenty-one when

Bleriot flew across the Channel. He had passed twenty-five before he had his first airplane ride, and was nearly thirty before he actively entered aviation and qualified as an aviator. In the ten years that followed, by force of courage and determination, by belief in himself and in the vehicle he used, he has pushed forward until to-day he stands in the front rank of his profession. This has brought new responsibilities. He has become less the aviator, although he still pilots, and more the scientist. He has, on his latest expeditions, let his pilots handle the controls, except when he relieves them, and devotes himself to navigation. That is, of course, as it should be.

It is not to be gainsaid that his great flights—and the flights of other men who follow the long air trails —have been of tremendous advantage, commercially, to aviation. The industry that the Wright Brothers founded on the barren sand dunes of Kill Devil Hill, in 1903, now has grown to a point where in this country alone it ranks in the $100,000,000 annual class. Airways spread over the continent, and are growing. Transoceanic routes are projected. Scarcely a day passes without some mention of a daring "goodwill flight" under way. These were results Byrd had foreseen years before, when first he planned them.

The airplane has wrought yet other wonders. Witness the words of that stalwart explorer, Amundsen, who for years had struggled on foot to penetrate the polar seas, upon the completion of the transpolar flight of the dirigible *Norge:*

"Looking back on the different expeditions I have taken part in, the last one seems to me unbelievable. When I started exploring in the polar regions we had to utilize the same means that had been used for generations. And now, thirty years afterwards, science and technique have made it possible to explore in

days regions bigger than could have been explored before in years.

"The risk of flying over ten thousand square miles in a few hours is not greater than it was before with a ship.

"Due to the wireless, the explorer to-day can fix the best moment for starting through the air and due to the wireless, he can, during the flight, choose the route where the weather conditions are best. Before, the world did not get news from him until after he had passed the frontier between the unknown and the known: now he is able to tell the world how his expedition goes from hour to hour.

"And after his return, due to modern photography and moving pictures, he can give much richer impressions of what he has seen than ever before."

Any one who knows Byrd wonders what he might have been if he were not an explorer. It is my belief that he would have made, contradictory as it may seem, a splendid business man. I have learned a story about him that has never been told, that is known by very few friends.

During the World War, Byrd was in command of the United States Naval forces in Canada, in line of which duties he established two air stations in Newfoundland. Before he sent his men home, at the close of the war, he promised to help them to the best of his ability to obtain positions in civil life. This was when he was an unknown naval officer.

Some months later, he met one of the men in Washington, and the latter told Byrd he was sorely in need of a job. Byrd mentioned the matter to a casual acquaintance who immediately suggested that the man become a partner in his rubber tire agency. It was a grand idea. All that the potential partner needed was ten thousand dollars of capital. He didn't have

enough to pay his room rent. Byrd agreed to invest all his savings, a few thousand dollars, and borrowed enough to complete the total.

Now the original head of the concern had insisted that the business was in good shape and making a profit of a thousand dollars a month. When Byrd examined the books a few months later, he discovered that the concern was actually losing a thousand dollars a month, that it was ridden with graft and close to bankruptcy. Not only were the only savings he had in jeopardy, but money he had borrowed from friends! Creditors were clamoring for overdue payments, and there was no money in the safe.

He went to the head of the Bureau of Navigation, where he was on duty, and told the story. He must ask for leave. He must devote all his time to this business, to win back his own money and that which he had borrowed from his friends. Permission for the leave was refused, but it was agreed that, when his day duties were finished, he might work at whatever else he desired.

So, after a long day on the Hill, struggling in the political fight the Navy then was waging, he would each evening go to the tire company. His decision was quick. If it was to be bankruptcy, very well, let it come in a big way. He borrowed more money, moved into a larger store across the street, and became a supersalesman.

When he took over the agency, it was distributing only one type of tire. Byrd managed to capture the concession from four other concerns, one of them embracing the surrounding States. Night after night, until dawn sometimes, he and his wife wrestled over the chaotic books. And during the days, when he had time, and always during the evenings, Byrd went out and bearded the big rubber tire users of Washington.

Orders came in slowly, at first, then faster. Within a few months, he had obtained contracts with such highly prized consumers as the Standard Oil Company, the Tidewater Oil, the Chesapeake and Potomac Power and Light Company, and half a dozen others. In view of the tremendous competition in the rubber tire field, the progress of the old agency in a new dress, "Richard E. Byrd, Jr., Prop.," was phenomenal. Within four months, it was making a profit of $1,000 a month.

When the time came for him to go to England to bring back the British dirigible *ZR-2* which the United States government had purchased from England, the company was flourishing. Most of the money he had borrowed had been paid back. So he sold out, clearing enough to repay his own investment, and joyfully turned his back upon business.

Perhaps this experience helped to make him the great organizer that he is. Yet he really has little fondness for the business side of exploration. His happiest moment on an expedition comes when he closes the ledgers (for exploration to-day is about ninety per cent bookkeeping and ten per cent exploring) and starts in the field. He is forever struggling against the circumstances of detail that imprison him, although he has long since learned to master them.

The ovation that the country has given him has not changed him. Indeed, he is astonished at the continued interest in him personally. But so far as he is able, he strives to keep aloof from the willy-nilly life of the public idol, for he dislikes crowds, and noise, and tumult. He has much work to do—having managed four great expeditions in as many years—and the time he has for "glad-handing" is short. Interruptions often irritate him, but he seldom shows his feeling. What observers frequently interpret as an all-pervading serenity, is really iron self-control.

Modest as he is, Byrd does derive satisfaction from the fact that his life has not been lacking in inspiration. Courage, after all, is a universal language, and once it bridged the gulf between Byrd, so strong and straight, and a pitiful war veteran with touching eloquence.

Byrd had been escorted to Paris after his flight to France. Pomp and circumstance surrounded him. Crowds were so dense they blocked the street, and fluttering hands reaching for his became so desperate that they shattered the windshield of the automobile in which he rode. Paris welcomed Byrd with all the richness of emotion of which it is peculiarly capable. A choking confusion rose in his throat—all this for him!

Then occurred this incident when he was brought to the Hotel des Invalides, where France's crippled aviators—the Broken Wings—eagerly awaited his coming. A place of desolate hopes; of wrecks that once were strong, young bodies. Men aged before their years bent over crutches, or lay helplessly flat in beds, yet all mysteriously invigorated by the realization that this greatest of modern explorers should visit them.

Byrd, immaculate in a white uniform, passed down the line of beds and wheel-chairs, shaking hands. He came to one, Captain Charles LeGendre. The officer's back straightened as he looked up at Byrd, and he smiled.

"Take my hand," he cried, "and lift me." As Byrd reached for the hand, an attendant rushed up, protesting. The man had not walked in seven years. He had been shot down in an air duel: his limbs were useless. But Captain LeGendre held firmly to Byrd's hand, and pulled himself erect. Byrd felt as if the bones must break, so intensely was his hand held.

Then, with Byrd supporting him by the elbow, the Frenchman tried his limbs, and *walked* . . . walked thirty paces up the steps to Napoleon's Tomb. The sound of voices was suddenly hushed. And Captain LeGendre, turning from the edge of the pit at the bottom of which lay the Emperor's casket, spoke softly to the naval officer:

"Seven long years I have lived so near it; yet I never saw the Tomb until to-day. Your courage, sir, gave me the courage to walk again."

When Premier Poincaré made him an Officer of the Legion of Honor, he experienced no greater ecstasy. Nor shall we forget his return to the little lighthouse at Ver-sur-Mer, on the coast of France, in the waters near which his monoplane had landed after forty-two hours of unbroken flight. He and his shipmates had found refuge in the home of Monsieur and Madame Coiffer, and he had promised Madame Coiffer that he would return before he started for New York. So he cut short his stay in Paris to keep his promise.

The day was bright and shining, and Madame Coiffer, resplendent in a new apron, and her daughter, Marie, were on the steps to greet him. How different from the gusty, rainy night when he and his shipmates, heart-sore for want of sleep, hammered on the door of the lighthouse, trying to convince her that they were not robbers. That he was famous, and had accomplished mighty things, they barely realized, for Ver-sur-Mer was far removed from the excitement of cities. They remembered him as a courteous wayfarer.

"I know that you must be tired of champagne," she greeted him, "so I have made you a cup of tea."

And one might well derive some sort of a moral from the fact that on the morning of Byrd's take-off for France, nearly two hundred thousand words of news flowed over the telegraph wires from Roosevelt

Field—many more than the greatest day's distribution on the spectacular Snyder-Gray murder trial. Word for word, one might suggest that the scientist for once ousted all competitors from the front page.

At forty, his has really been an amazingly varied life, and a rich one. It caused an editorial writer on the New York *Herald Tribune,* after essaying the story of the transatlantic flight, to exclaim:

"It detracts nothing of richly deserved praise from others to say that Commander Byrd is the most distinguished of American aviators. His life has been one of adventure and romance. He had a background for it in the traditions of a family that has distinguished itself in peace and war for generations. Injured in service, and retired the year before we entered the war, he returned to active service to receive seventeen citations for bravery and ability. No living aviator has contributed more, if as much, to the science of aviation.

"Nor is Commander Byrd, aviator, more admirable than Mr. Byrd, gentleman. He has carried his laurels gracefully, losing nothing of modesty, and he has always been foremost in the generosity of his praise of others. When, as a result of such flights as are now being made, the science of aviation shall be perfected, he will be conspicuous in the history of how perfection was achieved.

"America is proud of Richard Evelyn Byrd—the Sir Philip Sydney of the air."

CHAPTER II

HE FLEW A KITE OR TWO

THE chroniclers of the lives of most great flying men generally assure us that their heroes flew kites as boys; indeed, the practice has become the assumed biographical concomitant of every important aviator, and it does seem, after all, a most logical manner in which to introduce his career. The same can be said—authentically—of Byrd, only his neighbors assure us that his was no intention to enrich man's then scanty knowledge of wing curvatures and flight angulations. He and his brothers flew kites because somebody gave them kites. Their brains, active in other directions, did not ponder over inner mechanics.

Directed, planned as it was, Byrd's youth showed no marked deflection from the paths of those boys who grew up with him. That quirk in him for exploration did not manifest itself in other than normal boyish activities. True, he did discover a lost river in a forgotten cave in the hills near Staunton, Va., becoming so fascinated in following its course that he forgot all about time, and a dozen searching parties were mustered out to comb the hills while he lay sleeping at the source of his discovery. That can scarcely be classed as phenomenal. His real problem in life was to preserve his physical superiority over Tom, one year his junior but very large for his age. Dick, sensitive of his shortness, found that the advantage of a year was slipping fast.

For many years he permitted himself to suffer under

the handicap of his comparative shortness and slenderness. Possessed of an unusual fondness for athletics, he felt stultified by his lack of brawn, and the realization provoked within him a revolt that he fiercely carried through to adolescence, when, by unremitting exercise, he found himself equipped with a marvelous physique he never has lost. As a boy, however, lacking in weight, he turned to skill; and Tom, bigger and meatier, was harried the day long to all sorts of contests which, while they were an unfailing delight to the servants and neighbors, brought only anguish to Mrs. Byrd and—most frequently—to Tom. Harry, who was more seriously inclined, remained aloof from these internecine competitions. They stood too much in awe of his wisdom and years to draw him in.

Between Tom and Dick the father fostered an almost inflammable rivalry. The boys were the pride of his life and he wanted them to run faster, play better and think more quickly than the boys around them. He taught them to be expert horsemen and to handle a pistol. He was a crack shot and, apocryphal as it may sound, it was none the less a pleasant diversion with him to induce one of them to hold up a visiting card while he drilled it with bullets. Yet withal, he was a most quiet and reserved man, brilliant and scholarly, intellectual and aloof, and singularly bound to his own soil, his own people and his own traditions.

He could understand Harry, in whom he saw reflected with increasing intensity those qualities of temperate aggressiveness, unswerving determination and fearless loyalty to his own hearth that were his own. And in Tom he discovered yet another facet to his own personality: a charming indifference to convention and to rules, a repugnance for the routine things in life. But Dick was always something of a problem to him, although he must have realized that his character

was the fulfillment of the cycle of adventurous blood that rose and fell in the family history. Indeed, as the boy grew older and more sharply manifested those traits that are the characteristics of his maturity, he became puzzled and worried.

"Dick is erratic," he once told his wife. "He is keen as a blade. He has a quick head. He seems to know what he is doing. But he is too impatient, too erratic."

One of his delights was to make the two younger boys dive for coins which he would toss into the river near their home. It invariably developed into a battle royal between Dick and Tom until Dick, who rigorously practiced holding his breath under water to offset Tom's greater natatorial ability, began to win unfailingly. About that time Tom cheerfully gave up whatever hope he might have had of winning a fortune under water. The father taught them all to box, and the darkies would gather from all around when "Massa Byrd's boys" put on the gloves. Here again, it seems, Dick struggled against the limitations of his physical equipment by learning to box, and the local legend still obtains that he used to give Tom a most thorough pounding until Tom got to be six feet, two inches tall, and weighed two hundred pounds.

In the interests of posterity, let it be said that Tom did not suffer in silence. One day, after one of these affairs, he dashed into the house. When he came out a moment later, there was a fixed calmness in his eyes.

"Come on, Dick," he said grimly, "and see who gets a licking now." When they unclenched his bare fists, they were found to hold a mighty pair of brass knuckles.

Again, a great dirt fort he and Dick had constructed in the garden, where they used to cook their own meals, provided the scene of another great battle. The

two wrestled and Dick made the moral error of rubbing Tom's head too generously in Virginian soil. When Tom was released, he came charging back, a great potato knife in his hand. Dick fled into the house and into the bathroom, Tom in mad pursuit. Dick locked the door and Tom, thus defied, began hacking it with the knife.

Dick became worried that his beloved brother had actually gone insane; how to save him ousted fears for his own safety. He silently climbed out of the window, down the lightning-rod and rushed to the family doctor, three miles away. "Come quick," he said. "Tom has gone crazy, and you must help him!"

Byrd père, however, had returned home in the interim. Although more than an hour had elapsed, Tom was still carving the bathroom door and muttering all sorts of threats. Yet it must not be gathered from this that the rivalry was inimical or that knuckles or knife would ever have been used. To the contrary, the three were united in all endeavors, from digging a huge military trench in the middle of an elegant lawn, thus ruining it for the rest of the season, to uniting on a common front to repel the common invader. In Winchester they still tell stories of the prowess of the Byrd boys united, and local tradition has yet to recall where they ever left the field of honor without all the glory there was to be had.

If Tom was licked, they say, Dick would immediately seek out the aggressor and retaliate; if Dick came back much the worse for wear, Harry would sally forth; and if Harry, their last hope, could not mitigate the great wrong, then the three would attack in a body. Theirs was an exciting, eager youth and out of it grew a mutual trust and love that has come down through the years and holds them together to-day, however far they may wander afield, in a close-knit and sincere

fealty. The trilogy—Tom, Dick and Harry—has that meaning in Virginia.

When he was twelve years old, Byrd had his first great adventure: a trip around the world which he made alone and which he regards as one of the most exciting experiences of his life. Judge Adam C. Carson, once a lawyer in his father's office, invited Dick to visit him in the Philippines. Carson was a jolly sort of fellow and Byrd's idol. When the Spanish-American War came he quit his law books, enlisted as a volunteer and became a captain. When his regiment returned, he made Dick an honorary lieutenant and took him to camp in Washington.

One day, the regiment marched in review before President McKinley and Dick, elegantly attired in his cut-down officer's uniform, with long trousers, marched at its head. As they passed the reviewing stand, the President gave the boy a smart salute. Dick was too excited to notice, and the crowd laughed. It made Dick mad as blazes, Carson wrote home, and he ignored the stands during the rest of the parade. A short time later, Captain Carson and his regiment were sent to the Philippines, to crush the insurrection; and when the revolt collapsed he was appointed one of the District Judges. It was then that he wrote to Dick and asked him to visit him.

Without informing his family of the contents of this important missive, Byrd hopped on his bicycle and spent the afternoon in active pedaling, bursting into the houses of his friends and bidding them good-by. Of course he assumed a new importance to them. But his father and mother did not take enthusiastically to the idea. At first they flatly refused, for the Philippines at that time did not seem to be a safe place for a boy; there was much fighting in the interior, and

cables daily recounted skirmishes between the marines and the natives in the jungle.

But Dick wore them down with his insistence and finally the father, who believed that his boys should have wills of their own, informed his wife that he was willing that he should go. The mother packed his bag with all his precious treasures, and when it was done, she burst into tears. Dick stood beside her, his eyes clouded with thought.

"If it hurts you that much, Mother," he burst out suddenly, "I shan't go. But"—he paused a moment—"if I don't go, I shall never forgive you the rest of my life."

She let him go, because she thought it would do him good, and she took him to Washington to see him off on the train.

"That day," Byrd recalls, "my face was full of poison oak and I could hardly see because my eyes were so swollen. My mother was not given to weeping, but she wept that day. I felt more than a little blue myself."

Alone, with a great sheaf of tickets as his only guide, he journeyed to San Francisco where he boarded the transport *Sumner* for the Philippines. He knew only one person on board, Mrs. Wendell, a friend of his uncle's. Their first port of call was Nagasaki, Japan. In the China Sea, the *Sumner* plowed into a terrific typhoon—the worst, the captain said, he had seen in fifty-two years of sailing—and the ship behaved wretchedly. Railings, lifeboats and the smokestack were smashed and carried away by the seas, and passengers became desperately ill.

It was, no doubt, a most awe-inspiring baptism for the young globe-trotter, but the letters that Byrd sent home showed he spent most of the time on the bridge, advising the captain how to keep his ship right side up.

When the women became hysterical, the men passengers were apportioned to care for them; and Byrd was himself assigned to a school-mistress who lamented the dreadful decision that caused her to take this boat. He spent the afternoon applying cold compresses to her brow, while the boat pitched and tore through the storm, and under his ministrations the woman quite recovered. Four days behind schedule, the *Sumner* steamed into Nagasaki, and the passengers gave him a vote of thanks.

From the moment Kit Carson met him at Manila, Byrd's days were full of mischief, excitement and adventure. Affairs were lively enough in the Philippines at that time. The place was a hot-bed of cholera, bubonic plague and a score of other terrible diseases. Too, the most vicious of the ladrones, who refused to be quelled, still lurked in the jungle, and the whites who dared to follow the narrow, curving paths must be unremittingly watchful against ambush. Byrd easily became a favorite of all, and it was not long before he was accompanying the missions against the insurrectos, with a great army pistol strapped about his waist. They made him a deputy sheriff in the province of Sargosan and a member of the native constabulary of Masbate, another province.

On one of these expeditions, the constabulary, which barely numbered a score, was savagely attacked by no less than seventy ladrones in the middle of the jungle and, if the attackers had not been so precipitous, the whole party might have been ambushed. Bolos screamed through the air, and the musketry was intense. While Byrd, thoroughly frightened, tried to untangle his pistol, a huge negro constabulary officer reached up a mighty hand and flung him to the ground, protecting his body against the bullets. The ladrones were driven off, not without many casualties on both

sides, and Byrd marched home beside half a dozen prisoners, his pistol this time loosely buckled to his side.

Of course he wrote of all these things and his letters were accorded front page treatment in the local paper, under such thrilling "heads" as: "Winchester Boy Captures a Spy" . . . "Globe-Trotter Is Now in the Orient" . . . "Graphic Letters from the Philippines." The handling of the letters was of no small amazement to the editor, for he introduced the third with the remark: "For a youth of thirteen years, 'Dick' wields a remarkably interesting pen, and his English is of the purest." It is true that he did show a remarkable capacity for absorbing details, a faculty that was to be of supreme importance to him later.

"The insurrection is not over in the southern part of the islands," he wrote on October 9, 1902, "and it will be a good many weeks before it is subdued. There was a big fight there the other day and fifty Filipinos were killed and wounded.

"There were lots of insurrectos in this province the other day, and they killed nine of our men and wounded many others. The other day I went with a captain and some soldiers to a place called Palange, thirteen miles from here, where most of the fighting has taken place, to capture a mayor who stole some money.

"We got the mayor and on the way back captured a Filipino spy, and as he was such a notorious spy and has done the Americans so much harm, he is going to be hung. We are at the foot of a volcano, the largest active volcano in the world. It is apt to explode and the other day a great cloud of smoke came out of the top of it."

On February 1, he wrote:

"In the next room, Judge Carson is holding court, and of course it is held in Spanish as the Filipinos do

not understand English. There are two men in there whom the judge is sentencing to be hung, and they take the sentence as if nothing was going on. Their expression does not change. And from my window I can see the scaffold from which six men were hung last year."

He had a facile style even then, and his letters were full of facts and fancies he picked up from conversing with men, not only concerning the political and military situation, but the Islands' history as well. He had his thirteenth birthday in the province of Sargosan, where the native Governor entertained him royally. He learned to speak Spanish, and he faithfully recorded for his mother his change from light to heavy underclothing, a function which she had sternly prescribed. But with a curious wisdom he neglected to chronicle for posterity the time Judge Carson, with impressive dignity and rare judicial non-partisanship, found him guilty of contempt of court, and fined him heavily.

It seems that Judge Carson, while presiding over court, compelled the native attendants to fan him with a kind of punkah, a curious native fan, and this job one afternoon was turned over to Dick. Court lagged, the judge fell asleep, and Dick, tiring of the steaming courtroom and the swarm of flies, speedily hitched a device, employing a cord which stretched over the chandelier, by means of which he could sit more comfortably outside and operate the fan by occasional tugs on the rope. It worked splendidly until the chandelier pulled out, and the cooling breeze on the Judge's upturned cheek gave way to a disconcerting cascade of plaster.

He came to, fuming. He demanded the culprit and, when he was not immediately forthcoming, initiated an investigation. Dick was captured and brought back to the Judge, trembling.

"This is a very serious crime—contempt of court," Judge Carson declared pompously. "Men have been hung for less than that."

Byrd could say nothing. His tongue clave to the roof of his mouth.

"Do you plead guilty, or not guilty?" The voice was imperiously stern.

"Guilty, sir," answered the boy, quite convinced his days had come to an end, and that Judge Carson must be the judge more than the friend.

"The court orders," Judge Carson droned, "that you be fined ten pesos and all costs; and, in lieu of that, twenty days in jail."

Dick, angry, slammed ten pesos on the table. It is not a matter of court record that the money paid was the judge's own.

Not long after that incident, cholera broke out in the native quarter and the death rate spurted alarmingly. It was impossible to be too careful. For instance, a man dropped into the court one day, while Byrd was there alone, and complained of feeling ill. The boy, who had been taught to do that, took his pulse. That night the man was stricken with the disease and soon died.

The whole quarter was quarantined and Byrd and his friends were also quarantined on the crest of a hill, where they were more or less isolated from the disease which was racing through the native quarters. All the food was destroyed, and Christmas found them feasting on parrot, monkey and a bit of canned plum pudding. It was then that Judge Carson became worried, smuggled him aboard a British tramp and sent him home. Unescorted as before, Byrd journeyed back by way of the Indian Ocean, the Mediterranean, and the Atlantic, and in Boston had his first contact with the press, a contact from which, in after years,

he was never to escape. No less than twelve reporters mobbed him on landing, and he was labeled the youngest globe-trotter of his time.

All in all, it was a splendid, vitalizing experience for him. Above all, he gained a dependence upon self, a sense of initiative and confidence he might never otherwise have had. Possibly no other man would have allowed him such latitude, or shown such sympathy for that urge of self-expression within him, as had Judge Carson. Byrd feels this deeply, and to this day he and Judge Carson are the closest of friends. And it was truly the carrying out of that mutual trust that the jurist, upon his return to Virginia, years later, should stand almost alone in encouraging those spectacular flights that his protégé was determined to make, and which his family and friends were prone to believe were suicidal.

"Don't worry about him," was Judge Carson's unchanging retort. "Dick Byrd knows what he is doing —always."

Not long after his return home, the boy pleaded for permission to enter Virginia Military Institute, the swanky preparatory school of the South. He was only fifteen then, and undersized for his age. Overturning all precedents, the authorities finally admitted him; he was the youngest boy in the school, and easily the smallest, a fact of which his classmates speedily took advantage. The most opprobrious nickname he ever swallowed—"Dicky Byrd"—was hurled at him. Once more, he felt the disadvantage of smallness. He had to endure much hazing, and he took it as part of the game. But he was growing. He concentrated in athletics, and the rigid discipline of the school—it was run like West Point—hardened his frame and his muscles. Then the hazing abruptly ceased. He was too tough for the fun-makers.

Meanwhile a new ambition was growing in his mind. As he stood guard duty on wintry nights, with the wind sweeping through the pines on the campus, and the stars like frosty red, green and silver lights above, he thought of those glorious nights on the ocean. He decided he would go to sea, be officer of his own ship. The family agreed he should go to Annapolis, when he suggested it.

After two years at V.M.I., he entered the University of Virginia, where Tom was then a student. It was simply to fill the hiatus until he became of age to enter the Naval Academy. Yet he never relented in his application to sports, and became second-string quarterback on the varsity football team. The first-string quarterback was a lad named Honaker, a brilliant player, and the two fought stubbornly for honors.

Byrd's chance came in an important game with Washington and Lee, when he was sent in as a substitute toward the close of the game. A high punt spiraled down out of the sky, and he misjudged it. Before he could fling his lithe form across the ball, it had bounded within five yards of Virginia's goal. The defensive punt was blocked, and Washington and Lee crashed through for the winning score. To his serious mind, for he was then, as now, inclined to rate such things seriously, it seemed that he had shamed himself and his team. He never made the mistake again.

May 28, 1908, he was appointed a midshipman at Annapolis, and he went to the Academy with leaping heart. The Academy found him to be a silent, contemplative fellow, who at once seemed to keep aloofly to himself and yet who, by some alchemy of personality, was astonishingly cast in almost every activity. His days he regulated with Spartan precision; from one end of the year to the other he was one of

the training table men, in this sport or that. If he had not kept in the best of condition, it is doubtful that he could have continued his schedule, for the regular courses themselves were very heavy.

His penchant for sports and his marked proficiency in them were speedily to win him recognition. During his plebe year, he was made captain of the second team and chairman of the Athletic Committee. That year, too, he shared the doubles' tennis championship of the college, and was barely eliminated from the singles. On his midshipman cruise, he rescued a classmate who had tumbled into the Chesapeake. He was forever training his body and his muscles; it almost became a religion to him.

The second year a cruel accident temporarily stopped his meteoric rush. Playing against Princeton in a most important game, his leg was crumpled under a mass of men who had tackled him just after he had crossed the line for a touchdown. His teammates pried him out and carried him from the field while the stands roared his name. But Byrd's athletic career was ruined for that year; his right foot had been broken in three places. Out of recognition for his blasted hopes, his friends urged him to run for President of his class, and promised to deliver him the votes if he would organize. There had been twelve candidates for the office, but the field had narrowed down to two.

"I don't need your sympathy," he told them quietly. "If I deserve the office, it will come to me." Politics were peculiarly repugnant to him. He stoutly resisted all attempts to organize a campaign in his name, and when the polls were counted he lost by two votes.

By next spring, his foot was quite recovered and he left with his shipmates on another training cruise. Again misfortune overtook him. He was stricken with typhoid fever and became desperately ill. He was

put ashore at the Royal Naval Hospital, Pulham, England, where he was convalescent for two months. During that time he received a letter from his football coach, Captain Frank B. Berrian, urging him: "Hurry up and get well—you're my choice for Captain of the team."

He was thin and much under weight when he returned to the Academy, but he plunged into athletics with the sole view of building up his strength. He went out for the football team and made a grand struggle for the quarterback assignment in the face of strong competition. It was altogether too much to ask of his weakened body. In the game with Pennsylvania, the last before the all-important game with West Point, he played too hard. His strength gave out and he collapsed. He was through with football; the physician would not let him on the field against West Point.

Yet that winter he was Captain of the gymnasium ball team, played in almost every contest until another injury, one that in later years was almost to halt his career, permanently removed him from competitive sports at the Academy. He was a skilled gymnast, and was practicing a new trick on the horizontal bars. His hand slipped, and he spun thirteen feet to the floor, cracking the same leg he had injured in football in four places. Again, dull, painful days in the infirmary, waiting for the break to mend. And, again, the never-failing prodding of his courage.

In view of this succession of injuries, his record at the Academy is remarkable. He was not a brilliant man, scholastically, for the principal reason that athletics was then more important to him than studies. Still, he refused to listen to the advice of his preceptors that he move back a class, the better to permit him to regain his strength and to catch up with his studies.

He had a pride in his class; he was determined to graduate with it. His classmates were doubtful. "No man deserved more of fate," they wrote of him, "and got less." He triumphed simply by manhandling fate and his physical and mental resources.

The honors he managed to acquire at Annapolis, despite his periods of invalidism, were extraordinarily broad. He was, besides holding those offices already mentioned, Captain of the Gymnasium team, a member of the baseball team, an expert rifle and pistol shot. He held the welterweight wrestling championship of his class and was a semi-finalist in the boxing championship. During his four years, he was his class's representative on the important Athletic Committee and the "Hop Committee," a much prized social post, and during his last year he was chairman of that committee, which was probably the most desirable office in the class. All in all, his life was a full one, scholastically as well as physically. He was faithfully building his body and brain for the years of multiplied effort that were to come. Unquestionably, he overemphasized the value of athletics, yet it cannot but be conceded that the training gave him the body that has enabled him to weather incalculable strain. That physique alone carried him through three major expeditions in as many years.

Of his studies, history and the story of conquest absorbed his attention. He knew the story of empire building, and of the extension of the boundaries of nations and culture. Particularly did he delight in the story of exploration. When he was fourteen years old he recorded in his diary that some day he would explore the North Pole, and the page was illustrated with the fantastic devices he planned to use. So, when Peary reached the Pole in 1909—when Byrd was a sophomore—the news came as a personal shock to him.

He was then twenty-one years old, at Annapolis, and it seemed to him then that the last adventure had been closed to him, and that he had been born too late. Where else could man venture boldly?

Before he closed his career at Annapolis, there occurred two incidents which, perhaps more than any others, show the character of the growing man and give some insight into that staunch quality of conviction and judgment that he preserves to-day. In modified form, he was to repeat the same incidents, years later, and the same processes of thought were to govern him still.

As chairman of the "Hop Committee," Byrd's chief task was to supervise the sending out of invitations to the "Hop," the swanky social affair of the senior year. Of course, the list was closely scrutinized and certain of the committee members were inclined to discriminate against what might be designated as questionable names. The crisis came when one bloc flatly refused to invite the father of one of the boys because the father happened to be a warrant officer and, therefore, could hardly be expected to meet on even terms with Admirals, potential Admirals and other naval dignitaries.

"You can all go to hell," Byrd told them, the legend goes. The invitation went out; the boy's father came, and the high-hat group graciously accepted the situation. If there is anything in life that Byrd wholeheartedly despises, it is the perpendicular society nose. Possessing a legitimate claim to it himself, he regards it as a contradiction of the theory of the nation; and, deeper than that, a ridiculously short-sighted repudiation of the joys of friendship to be gained from the people about you.

The other incident concerns his selection by his classmates as the man to vindicate its honor in battle. It

seems that a big lad from another class had given one of their classmen a terrible thrashing, and the leaders of the class concluded the stain could be washed away only on the field of honor. The best boxer must be chosen, a man who would not lose. A delegation called upon Byrd.

"Will you fight ——?" they asked him. Byrd knew the man. He knew, too, that such a fight was proscribed by the regulations, and disclosure meant dismissal.

"Of course," he answered. "When?"

Dawn was the hour chosen, and the cleared-off space behind the Marine Barracks was the place. The opponents met with much ceremony. There was a referee and an imposing group of seconds. Byrd weighed 153 pounds stripped—the weight he carries to-day—and the other fellow outweighed him by fifteen pounds.

At the word of the referee, the two clashed. It was a bitter battle, and much blood was shed by both men that cold gray morning. In the end, Byrd's better condition and greater skill shifted the balance, and his fists inflicted a terrible pounding. He was awarded the decision, and his class had maintained its honor. It was not until the next day, however, that his seconds knew he had fought the last part of the battle with his right thumb broken.

He and his opponent became firm friends, and the man's family to-day is one of his most frequent hosts.

On June 8, 1912, he was ceremoniously graduated from Annapolis, strong, erect and handsome in his full-dress uniform. The first phase of his life had closed, and the Navy seemed to be the career he would follow. He faced it with a vague doubt. Would it answer the trembling wishings within him? More prophetically than he was to realize, the editor of the "Lucky Bag" foresaw the restlessness within him when he wrote, be-

side his picture and the record of his accomplishments in school:

"Go where he may, he cannot hope to find the truth, the beauty pictured in his mind.

"Richard Evelyn Byrd, Jr.—athlete, leader in all right things, friend, gentleman: Most of the time Dick wanders around with a far-away dreaming look in his eyes, and one often wonders whether he knows whether he is coming or going. He is suffering from a malady that gets us sooner or later. He has already lived a life rich in experience, and he will live a life richer still. But he will always give to life more than he asks."

And aviation, too, was closing the first, exciting phase of its spectacular development. Since that brilliant day, December 17, 1903, when Orville and Wilbur Wright succeeded in lifting their fragile biplane for nine seconds of sustained flight over the sand dunes of Kittyhawk, the airplane had thrust itself before the attention of men, battered down prejudice and skepticism, and firmly established itself as the great mechanical promise of the future. Intrepid men were learning to fly them. In 1909, Bleriot had guided this new-found marvel across the channel, twenty-one miles of sustained flight without navigational instruments of any sort, and the world gasped; and about the same time an American aviator faltered through the fog over Long Island Sound and landed in Connecticut.

It was inevitable that Byrd's questing hopes for far-flung adventure should seek expression in this new instrument. But not for several years was he to realize it. It was to spring from an incident that seems, in view of the earnest detailing of his life, almost trivial.

CHAPTER III

ASSIGNED TO ACTIVE DUTY

LIFE opened its doors in many strange places on the Continent to this young Virginian during the next five years. Four of these he was to spend with the fleet, distinguishing himself for extraordinary courage, ability and determination. He was to dream, plan and prepare himself, scarcely pausing in the present, always hurrying toward the impending second. Yet, rich as they were in personal experience and promise, these years were to close on the boundary of despair. Once, he nearly gave up hope, nearly quit the Navy to become a business man. Then he lashed his will and struggled "skyward."

Two months after he left Annapolis, Byrd was assigned to the battleship *Kentucky,* pending transfer to the *Wyoming,* flagship of the Atlantic fleet. He sailed from Norfolk, Va., early in August and actively entered the service at Philadelphia, where he was placed in command of a division of seventy men. It was most exciting work to him, being his first command, and he zestfully applied himself. He had scarcely oriented himself to his duties when he was transferred to the *Wyoming,* and began his first duties at sea.

The *Wyoming* was a splendid training school for this young mind. Cog though he was in a huge mechanism of war, Byrd came to attach to himself a strong sense of importance and a stronger ambition. The *Wyoming* put out to sea for fleet maneuvers, and Byrd found himself projected into circumstances of

vast import. He continued his studies, particularly in gunnery and navigation. His first reward came when he was made signal and assistant navigation officer, his second came when the fleet moved to Guantanamo for its seasonal practice of war. Then he was made range-finding officer, a most important post for a young ensign. Every time the twelve twelve-inch guns fired a broadside it cost the Treasury a small fortune; the range-finding officer laid himself open to severe criticism if the targets were not demolished in short order.

During one of these practice broadsides, Byrd, who was in the conning tower, calculating ranges, barely escaped with his life. One of the huge turrets was directly under him. The recoil from the broadside was terrific; a huge spurt of flame flashed into the tower, and he ducked instinctively. But when he arose his face was black with powder soot, and his eyelashes were badly singed. He was shaken, but said nothing about it. He calmly stayed at his post.

It was really a stirring life: a life of motion, of high-pressure machinery, of big guns and mighty engines. His letters home were of heroic stuff. There was much glory to be won in the Navy. When the big guns spoke, it was in thrilling orchestration that roused ambitions. There was in him then the same imaginative spirit there is now; the power of the guns awed him. He dreamt of doing important things in their echoes. Nearly a year passed before he quit the *Wyoming,* and he regarded it as one of the most valuable experiences he ever had.

Among other things, he was made prosecuting attorney in the trials of men, there being such a court on every ship. Ensign Byrd, unlike his father, was a most sympathetic prosecutor. He was more than merciful and, according to a man who served as an enlisted man aboard the *Wyoming,* the sentence meted out by the

judge was usually fixed after a conference with Ensign Byrd; consequently, it was rarely harsh. He also manifested and gave play to that instinct for organization; he formed one of the first clubs for enlisted men aboard a battleship in the Navy, and he made an extraordinary departure from the traditional high-hat predilections of the Annapolis graduate by trying to harmonize the officer's point of view with that of the man in the ranks. He had charge of the athletic activities of the men and organized a very efficient football team.

His career aboard the *Wyoming* closed abruptly when he fell down an open hatchway and injured the leg he had broken at Annapolis. It was a severe wound, compelling his removal to the hospital. How deeply the men appreciated him was shown when twelve hundred of them lined the rails as he was lowered into a tender, and gave him a rousing cheer. Then came three long months at the hospital at Washington. The shattered limb was reopened and set again; the splintered bone was joined with a silver nail which is still there. For several weeks there was little hope that he would ever walk again, but he pulled through. Although he limped quite noticeably, he insisted his efficiency was unimpaired. In the spring of 1914, after he had persuaded naval physicians to give him a bill of fitness, he was ordered to the battleship *Missouri*. Due to certain unusual circumstances, Ensign Byrd, twenty-six years old, suddenly found himself at times acting as executive officer. It was almost unheard of! The *Missouri* was then being commissioned for a midshipman cruise, and the job called for many important judgments. How good they were, he often doubted. The test came when an Admiral unexpectedly decided to make an inspection. He went over the old battleship with the fierce microscopic eye of an

old lady scrutinizing her china. The younger ensign trembled in his boots. He was unduly exercised. As the old sea dog left, he tugged at his walrus mustache and observed gruffly: "This ship and crew are damned good."

That summer came the Vera Cruz incident, and the landing of the marines. The rifles of revolutionaries were popping in Haiti and San Domingo. Faint echoes though they were of the chaos in Europe, Byrd saw an opportunity to get seasoned in action. He was convinced that the United States must enter the war; therefore, he was eager to get under fire, even if only from the muskets of rebels, before the big test came. He asked for transfer to the U. S. S. *Washington,* then being commissioned for service in Mexican waters.

His request was immediately granted. Men for service in Mexico were decidedly scarce. The harrowing stories of war from the other side of the Atlantic had debunked the business of hero worship. A nation that was singing "I didn't raise my boy to be a soldier" had small desire to play at war in its maritime back yard. In the emergency, the Navy was manning the *Washington* with men from the naval prisons, released more or less on their good behavior. The task Byrd had willingly shouldered was not an easy one, for the great bulk of the enlisted men under him were restless, rebellious souls who had run afoul of authority more than once. To his credit, it is to be said that not one of them was ever summoned for summary court martial, however close they may have been to the border line. He ruled them easily, but persistently: and they liked him immensely.

This they showed conclusively when the *Washington* arrived at Vera Cruz. By that time the incident had quite petered out. There was little action, except an occasional shot from a last-ditcher. Too, the State

Department had gained control of the situation and lest a too enthusiastic bluejacket offend the progress of negotiations, all shore leaves were proscribed. The men became bored and landsick, with the turrets of Vera Cruz softly etched against warm skies. There were one or two half-hearted attempts at liberty.

But the men under Byrd obeyed the interdiction. Besides, he had served fair warning that he personally would punish the offender. They had seen him box in the gymnasium, and he seemed quite capable of inflicting it. More than that, he was so decent in his treatment of them that the men were unanimously loyal to him. Once, at San Domingo, when he led a shore party, he permitted them to swim under solemn promise they would remain with the party. Two of the men took French leave. Byrd peeled off his coat and faced the others. "If any more of you intend to break your word," he told them, "you've got to fight first." None of them did. It was indeed an astonishing action for an officer, strictly against the dignity of his office to act in such fashion. But Byrd was inclined to be hotheaded and individualistic. Then, as now, he shouldered his own dirty work.

Twice, he was to win citations for bravery. Of these he never talks. Years were to pass before he was to be rewarded for them.

On July 6, 1914, he was in charge of a party of seamen who were swimming in the waters off Cape Haitien, Haiti. Some distance off shore Seaman Nuttall was suddenly paralyzed by cramps and sank. Two seamen struck out after him. The cries aroused Byrd. Without removing his trousers, he dived in and arrived just as the others reached the stricken sailor.

Says the report to the Navy Department by the commanding officer of the *Washington:*

"After considerable struggle and difficulty, these

three men succeeded in keeping Nuttall above the water until rescued by a boat. The manner in which seaman Nuttall was saved from drowning by ordinary seamen Taylor and Eldredge, and by Ensign Byrd, was highly commendatory.

"In view of the commendable act of duty on the part of Ensign Byrd in so promptly going to the assistance of the drowning man, it is recommended that a copy of this letter be placed in his record."

A month later Byrd received from Secretary of the Navy Daniels a very warm letter announcing it gave the Department "much gratification" to cite the action in his record. And ordinary seamen Taylor and Eldredge, being members of that group of adventurous prisoners, were rewarded by having their sentences (they were serving six months' probation) suspended.

The second incident occurred on August 15, little more than a month later, in the shark-infested waters of the harbor of Puerto Plata, San Domingo. Trouble was brewing in the little Republic and the question of international relations was so involved that the marines and the State Department were considerably muddled as to just how far they should go in getting the situation in hand. The *Washington* steamed southward at top speed, put into the little harbor and anchored near the transport *Hancock*, loaded with the Fifth Regiment marines.

Carrying Commander Willard and Ensign Byrd, a launch put out from the *Washington* and headed for the *Hancock*. A heavy sea was running at the time, and the coxswain of the launch had great difficulty in landing at the transport's gangway. Several times the little boat was on the verge of being blown to sea, or smashed against the iron plates of the transport. The landing was finally made, Commander Wil-

lard scrambled up the gangway and Byrd followed. A moment later the tossing of the launch threw a seaman at the stern into the sea.

The following report to the Navy Department, submitted by Captain Louis E. Fagan who was an eyewitness, will adequately describe what followed:

"Commander Willard was followed over the ship's side by Ensign Richard E. Byrd, Jr. Shortly afterward Byrd and I were standing at the rail, conversing, when we saw the seaman fall into the heavy sea.

"The danger of his drowning in the rough water was crowded from my thoughts by the fear that he might be attacked by one of the many savage sharks then infesting the roadstead. All swimming had been prohibited the crew because of their dangerous proximity to the ship's side.

"In the moment required for the thought to pass through my mind, Byrd had made his decision, and had dived from the high rail of the transport without waiting to remove a single article of clothing. Being an expert swimmer, he managed to reach the drowning seaman's side, where he supported him until a single line was heaved from the rail of the *Hancock*.

"Byrd made the line fast to the seaman and insisted that the latter be rescued first. Meanwhile he remained in the rough water, still clad in his soaked clothing, in constant danger of being dashed against the ship's side, and a prey to the sudden attack of any lurking shark. Not until the man was safe aboard did Byrd consent to have himself hauled aboard."

Eight years later Byrd was decorated by the government with a Silver Life-Saving Medal of Honor. Not until then did his family or his friends learn of the details. Byrd himself never mentioned it, believing that his proficiency as a swimmer diminished whatever importance might be attached to the rescue.

During the few weeks the *Washington* moved in and about the Central American theater of war, Byrd took every opportunity to probe into the factors that made it go. He was a member of nearly every landing party, and many times was under fire, always indirectly, of course, and with scarcely any chance that it would be fatal, the accuracy of Spanish musketry being what it was. He spoke Spanish fairly well, and consequently he frequently acted as a liaison.

There was yet another thing concerning that cruise: Byrd volunteered for the midnight watch, probably the least sought after post on a battleship. It is a lonely job, and cold and slow. Some nights from his post he could see the fires of the rebels burning eerily in the hills. Once or twice shots from their muzzle loaders spattered spitefully against the battleship. Possibly he wanted the watch because it offered a bit more excitement. Possibly, too, because during the slow moving hours of the night, with the tropical sky bright above him, he planned out the life he desired.

He had had his first flight in an airplane, a short hop in an old Curtiss flying boat, piloted by his old friend, Captain Cunningham. In those days flying was not an undertaking for a nervous man. The passenger sat in front, fully exposed to wind and spray and whatever hazards might result in landing. The factors of safety being what they were (for flying was then altogether in its infancy) those hazards were not few. Still, the flight, brief as it was, made a profound impression on him. He was spiritually stirred by the rush of clean air in his face, the enlargement of vision, the symphony of motor. Thoroughly excited he wrote a vibrant letter of the experience to his family. He would be an aviator! His father at once had other ideas, quite as strong but altogether earthbound.

In the fall of 1914, the *Washington* flung out its

homeward bound pennants to the winds and hurried to the States. The war in Europe was bowling along at high speed. The progress of the Germans was startling. Few of the officers believed that this country would become involved, so imminent seemed the collapse of France. Still, each radio bulletin was eagerly distributed, discussed and argued. In Byrd rose a rich expectancy. Perhaps there would be a chance for vivid experience in the Navy.

Then, quite unexpectedly, he was detailed to the *Dolphin,* the yacht of Secretary of the Navy Daniels, as famous perhaps for his pacifism as for his grape-juice Navy. It was an assignment that most young officers, fresh from Annapolis, would have courted. In the first place, it meant a fairly permanent station at Washington. More, it was the open sesame to Washington's brilliant social life. Men were scarce enough in Washington; and to socially inclined matrons, with empty chairs at dinner tables to be filled with bright young minds and handsome faces, young naval attachés were the last word in desirability.

But to Byrd the assignment promised only polite boredom and inaction. A short time later, on January 20, 1915, occurred one of the most brilliant social affairs in his own life. He was married to the exquisite Marie Ames, of Boston and Virginia, whom he had known and adored since they played together as children. They were married at Winchester, and a gay affair it was. Captain Ralph Earle (he has since become an Admiral), who was then in command of the *Dolphin,* generously gave leave to the entire officer personnel for the affair. It is one of the memories of that ceremony that for three days the discomfited skipper held down the ship alone, waiting for his officers to reappear.

There is one parallel among the Byrd brothers I

should like to bring out here as indicative of their loyalties. All of them married girls they had known from childhood. And the other two shared the responsibilities of dual "best man" when the third was married. It was the happy fulfillment of a promise made years before in a rare interchange of trusting confidences in the depths of the fort they built in the flower garden at Winchester.

From the *Dolphin,* Byrd was transferred to the Presidential yacht, *Mayflower,* and there he served nearly a year. From the point of view of aeronautics and naval experience, they were days that perhaps should be counted up as lost. Byrd grew impatient, chafed under inaction, under the pressure of social obligations. Yet they were undeniably fruitful, although many years were to pass before the full benefit of them should come to him. He met hundreds of important people, men who were to aid him later not because he asked them to, but because they liked him. Too, he came in fairly close contact with President Wilson, his father's dear friend. During the week-end cruises of the *Mayflower,* he had many opportunities to observe the War President during those harassed hours. He saw his gauntness thin out; saw him become more pale, and nights when almost every one else in the party would be abed, during his own strolls about the ship Byrd would come across the President standing somberly in the shadows, a graven figure etched in lighter darkness, gazing across the sea, brooding. Or else, long after midnight, he would hear the long thin fingers of the President tapping on the typewriter in his cabin. Byrd had a profound sympathy for the idealist and the cares that freighted him. Soon enough he was to be freighted with them himself.

About that time, despair was deep in his heart. For all his ambition, he could not seem to find action.

The leg he had injured in line of duty still bothered him, and promotion that should have to come to him —his classmates had all been advanced—was held up because of it. He was convinced that so long as he remained in the Navy, he must be either a wall flower or a pen pusher. So he requested retirement. On March 16, 1916, he was officially found incapacitated for active duty and transferred to the retired list. A great hope filled him. Now he would explore.

Yet not a week was to pass before there came a most flattering offer from the department. Would he accept the post of inspector-instructor instructor of the Naval Militia of Rhode Island? The hot warclouds of Europe were spreading to the United States. In the interests of preparedness, although President Wilson even then was campaigning for reëlection while his supporters chanted, "He kept us out of war," the various state militias were undergoing revitalizing. Byrd accepted immediately. On March 21, five days later, he was commissioned a Lieutenant, junior grade, and the commission was made retroactive, antedating his retirement by one day.

With a revival of enthusiasm, he turned to his new duties. His task was to build up the state naval organization, then in the doldrums. What men there were, were untrained: morale had reached the vanishing point, and there was little enough interest in the organization. Within a few months Byrd built up a fine, enthusiastic cohesive organization, and the Governor of the State rewarded him by making him Commander of the State's entire naval forces. This met with the approval of the Navy Department.

In the midst of this task, Byrd undertook a striking study. He enrolled at the Harvard Graduate School and specialized in commercial economics. Let it be understood that this part of his life was not an easy

one. Finishing his classes at Cambridge, he would motor at high speed to Providence, R. I., fifty miles away, where he would spend the rest of the day training his battalions. Not often would he get to bed before midnight. He has always had an indestructible capacity for work.

Then War shouldered its way into his studies. A long flat official envelope arrived from the Navy Department. Report for duty at Washington under Commander Harry Shoemaker. A swivel chair job—pen pushing! And he who had prepared his life for the profession of arms must serve his country behind a mahogany desk! He was frightfully disappointed. But he packed his bag and went to Washington, ready for service.

His immediate job was executive assistant to Commander Shoemaker in the transfer of enlisted men from station to station, or in the manning of new ships. For days he wrestled with statistics. How many coal passers, firemen, water tenders, etc., to run a ship? Complicated, exhausting work, but oh! so boring. Byrd pleaded for transfer to the fleet. The first destroyers were putting out for France. But the heartless gentleman with the gold braid pointed to his "game leg."

To relieve his routine, he cast about for new duties. He discovered that the drill and landing manual, in use for years, had been hopelessly antiquated by changed conditions of warfare. He induced an influential friend to suggest to Admiral Palmer that he be assigned to rewrite it. Here would be a chance to get into the first line trenches in France, to learn the latest methods of trench warfare for the Navy's landing forces. Admiral Palmer was in charge of the Bureau of Navigation. That old war horse just about hit the roof at the sheer effrontery of this young Lieutenant.

He called Byrd into his office and administered a scathing rebuke. It was the last time Byrd ever resorted to indirect methods with the personnel division of the Navy.

About that time there arrived at the Department a letter of commendation from the Governor of Rhode Island. . . . "The result (of his work) was an immediate revival of interest. Recruiting became brisk, and when the prospect of service became imminent, he was indefatigable in his efforts. All the divisions were recruited practically to the maximum; an aeronautic section became a division, and a new engineer and marine company was organized. I ascribe most of the credit of this to Commander Byrd, for whom I predict a brilliant career, if only the opportunity for service can be given him."

Whereupon, Secretary of the Navy Daniels assigned him as executive secretary of the Navy's Commission on Training Camps, a bureau then under the control of Raymond B. Fosdick. One might almost call it a liaison group between the military and the civilian groups. The Navy records show that it was responsible for the organization of athletic clubs for sailors, library workers, entertainments for sailors, law enforcement units in camps, the education of the enlisted men, for which work Dr. Fosdick cited Byrd's "tact, enthusiasm and genuine administrative ability," in a message to the department.

The records also show a rare document over Byrd's signature: a most eloquent plea for reorganization of the corps of chaplains. ". . . I am tremendously interested in the matter of getting a chaplain in Washington. . . . The moral effect of a head of the corps of chaplains on the chaplains themselves and on the personnel of the Navy would be beyond measure. . . . Chaplains are being sent to ships to-day regardless of

their suitability for the ship; such a thing would not be tolerated in any other corps. . . . The mothers and fathers of seamen demand and have the right to demand that their sons should have an efficient man of God to turn to. . . ."

He was working night and day at this job; in his anxiety to make it a springboard to active service, he lost twenty-five pounds. But he never gave up hope. Being in the Personnel Bureau of the Navy, he finally was in a position virtually to write his own orders. His eyes had been turned to Pensacola, training station for naval aviators, for a long time. After Secretary Daniels had previously declined Dr. Fosdick's suggestion that Byrd be transferred to active service, on the ground that he was "too valuable" to him, it was agreed that he might go to Pensacola, provided he could pass the physical examination.

Byrd was in terrible physical condition. He had lost so much weight that he weighed no more than 135 pounds. The doctors looked at him skeptically. "Let me go," he pleaded. "I'll gain when I get into service." They agreed to let him have a month's trial; if he did not show a gain at the end of that period, he must return to Washington. Byrd agreed joyfully.

Pensacola, Florida. A lovely stretch of white beach and blue sky. The pleasant thrumming of propellers in the air, a steady movement of taut white wings against the immobile sky. And young men, brown of face and white of uniform, dashing about excitedly. Byrd stood for a moment on the shore, bag in hand, drinking in the beauty of motion and sky, before registering.

The steady hum of a motor in the sky suddenly ceases. His eyes instinctively turn upward.

A lovely thing of white and gray, with red, white and blue markings, poises against the blue of the heavens, edges off on its wing, and slips breathlessly toward the sea.

The men on the platform stand as if riveted to the spot. Voices blurt into the silence:

"Controls snapped . . ."

"No, it's the wing . . . look!"

"God, it's Jack!"

The plane skids sickeningly against the air that will not hold it . . . down . . . down . . . down, until it buries itself into the sea, with the sob of wind in its struts. A vast column of water spurts skyward, and pieces of wreckage are limned starkly against the foam.

A motorboat plows out at high speed. Men futilely prod the wreckage; perhaps only a moment later, perhaps an eternity later, they lift a sagging body into the boat. Ashore there is only a comprehending silence. Another flyer who will never fly again.

With emotion lumping within his throat, Byrd turned toward the station headquarters. Ten minutes later he was enrolled as a student pilot. Half an hour later he was off and away on his first flight. Within six hours, that is, six total hours of flying time under instruction, he was ready for his first solo flight.

Now a solo flight is probably the most important moment in an aviator's life. For the first time, he is responsible unto himself. There is no instructor to take over the controls if he gets into trouble: if the plane spins, or a propeller breaks, or the motor stalls. "Don't stay up more than twenty minutes," his instructor warned Byrd. The flyer had seen too many promising young pilots lifted from smashed machines because of the overconfidence that comes after a brief solo experience.

Byrd got off beautifully, landed, and rose again. He was tremendously thrilled and forgot all about the time. In the excitement of testing his skill, he did not decide to come down until more than a hour had passed. By that time his instructor became worried, and bellowed unheard orders into the sky. He breathed a sigh of relief when the plane settled nicely into the water, and his student taxied to the beach.

"Nice work," he admitted grudgingly, "but you shouldn't have been such a damned fool. It costs Uncle Sam a lot of money to train you fellows; and every time one of you cracks up, you rob the Treasury. Don't forget that."

Byrd's progress was amazing. He speedily became an instructor: men were coming and going: men unfit for flying were unceremoniously rejected, and new ones grew up like mushrooms to take their places. Days of unremitting work. Of joy and sorrow. Of a new pilot made and another one killed in a quick-lived tragedy in the blue waters of the bay.

There being only four regular Navy officers in the flight training school, Byrd was soon made assistant superintendent of the organization. He was at first outranked by many of the men under him. On April 7, 1917, he was commissioned a naval aviator: ten months later he was made a temporary lieutenant.

Meanwhile, he was learning much about flying. He assigned himself to the Crash Board, whose sad duty it was to discover the cause of airplane accidents. It was undeniably a funereal occupation, sometimes comic, generally tragic. One plane dives into the sea from fifty feet, killing both pilot and observer. Another skids five hundred feet, is wrecked beyond salvage, and the crew escapes without a scratch. A frightened student freezes to the controls, the plane spins and

before the instructor can gain control, the plane crashes, bringing terrible injury and often death.

Military flying was a tough job in those days. Modern warfare had set a killing pace, and the minds in high places, dealing in terms of millions of men, had no time to waste on the human equation. It was: fly or get out! Students on their first solo flight would struggle in the skies, not daring to land, yet conscious of the fact that the exhaustion of fuel would soon compel them to land, willy-nilly. Others would learn with astounding facility. And in time Byrd and his men were turning out flyers with the facility of clockwork.

The most difficult part of it all was learning what caused the crashes. Aviation was still in its swaddling clothes. Not very much was known about the factors that caused spins, dives, turns. That was the job of the Crash Board. Three or four times it was compelled to hold an autopsy over new wreckage. Bright young men, perforce, were reduced to an unidentified "human element" in the flight of a mechanism of engine and wing. What caused this plane to crash into a hangar? that to spin into the sea? this motor to stop suddenly? that wing to break?

Byrd, as a member of the Crash Board, tried to find out, to correlate a whole new system of aeronautical learning. A new fact learned might save fifty lives next week.

Happy though he was in his new duties, he was eager to get abroad. The Navy Department no longer classified him as a cripple; he was a full-fledged pilot —he had won his wings! Surely the Allies were sorely in need of good pilots. The Germans with their superior machines just about controlled the skies above the trenches. But the Navy Department wouldn't

hear of his going. A good instructor was more important than just another pilot.

Then he learned that the Navy was building a huge new flying boat, to be called the *NC-1,* which was to be equipped with four Liberty motors. He had the bright idea of flying that plane across the Atlantic to France! A brilliant psychological gesture to a discouraged Europe. While transports brought aid in the shapes of millions of men, the Navy would rush assistance to the war zone through the virgin routes of the air.

In a moment of enthusiasm, he dashed off a letter to his dear friend, Walter Camp, the famous Yale coach, and told him of the idea. He wanted to make the flight himself. Perhaps he could arrange it. Before the idea could gain circulation, Byrd suddenly received an order to train one hundred flyers in night flying for bombing service abroad. Whereupon he set about one of the most dangerous experiences of his career. He schooled himself in night flying.

Night flying was altogether an uncharted field of aeronautical research. Even men who had flown for years sidestepped it. The danger lay in landing, for, in the darkness, it was hardly possible to judge the distance of the water beneath the pontoons. A miscalculation of a few feet meant a serious crash. Still, the danger did not deter young Byrd. The night that he received the order he took off from the darkened waters and headed into the sky.

After a bit of maneuvering, he prepared to come down. All he had to guide him was the pale circle of lights on the hangars. He brought the ship down as gently as he dared—and the air speed indicator then showed a speed of fifty miles an hour. The struts sang softly, as the nose of the ship melted into the

blackness. It was impossible to tell how near he was to the water. Byrd made a quick decision.

Crash! The pontoons slammed against the water and the plane porpoised fifty feet, as if it had crashed against concrete. Byrd instinctively jammed the throttle forward, and the motor caught before the plane crashed again. It was a narrow escape. But he had learned something. A moment later he landed easily. Then he began training his flyers—the first night-flying group in the history of the country's aviation.

His transatlantic flight had meanwhile gained momentum. Walter Camp had broached the idea to Admiral Peary, who eagerly volunteered to sponsor it in high naval circles. Byrd singled out his friend, Lieutenant Walter Hinton, and told him of his plans. They both prepared to tackle the problem.

Byrd at once recognized that the biggest question mark in the contemplated flight was that of navigation. Never before had planes been navigated out of sight of land. Indeed, few of them had been fitted with compasses, the general practice being to follow maps and landmarks. Byrd obtained permission to mount compasses, and he and Hinton forthwith undertook probably the first out-of-sight-of-land flights in the history of aviation. It was a deliberate and dangerous education.

One theretofore unrecognized hazard of flight impressed him. It was the drift in direction of flight caused by wind currents. Flying over water the gradual change in direction was not noticeable; in a long flight, it was apparent, the error might spell the difference between success and disaster, between reaching the objective and coming down at sea, miles off the course. Again, there was the problem of navigation. The marine sextant was not altogether practical because of the high speed of the airplane.

Byrd's scientific mind grappled with these problems, and he developed, partly from his own ideas and partly by improving experimental devices then being developed, a highly efficient drift indicator and an artificial horizon sextant for oceanic flight. The second bears his name, and the value of the two inventions may be judged from the fact that, twelve years later, with very little improvement, they were still standard Navy equipment.

In the midst of his transatlantic schooling, Byrd received an abrupt order to proceed to Washington. A few days before, he had specifically petitioned the Department to permit him "to make a transatlantic flight in an *NC-1* type of flying boat, when this boat is completed." He dallied several days in Washington, his future assignment being kept a dark secret.

Then on August 10, 1917, he was specifically ordered to Halifax, Nova Scotia, as Commanding Officer of a proposed Naval Air Station there. He wavered between elation and disappointment. Did it mean that, so far as he was concerned, the transatlantic flight was off?

Supplemental orders were clear enough. He was to cooperate with the Senior Britsh Naval officer at Halifax, Admiral W. O. Storye, of the Royal Navy, in the protection of convoys then being menaced by German subs in the North Atlantic. He was to lay down two bases and, finally, "to locate a suitable rest and refueling station on the east coast of Newfoundland."

Vague orders, to be sure, but deliberately so. In those days, with the spy scare in fine flourishing, the bureaus of the Navy were exceedingly careful. Still, there could be no doubt of the purpose of the proposed "refueling station." The Navy was ready to try the first transatlantic flight!

At once Byrd made ready for the transfer of equipment to Canada. It was no easy job. The railways were burdened with military traffic: it was almost impossible to get the tons of stuff he must have moved northward to Canada. He was made a Lieutenant Commander, a temporary appointment, and endowed with the magnificent title of Commander of the United States Naval forces in Canada. With the prestige this gave him, he was enabled to secure the transfer of Lieutenant Hinton to his expedition.

At Halifax, a thousand and one difficulties beset him. Most of the men were green. The big flying boats must be assembled and tested, the men trained. For days Byrd labored with less than five hours' sleep a night, trying to bring order into chaos. He never faltered; within a short time, he had both stations functioning with war-time alertness, one at Halifax, the other at Sydney.

Now for the submarines. Then he made the sad discovery that the big bombs he had so carefully packed had failed to arrive. Of what use were the planes in convoy service without ammunition? He called his pilots together. "Are you willing to take these things?"

He pointed to huge depth bombs—barrel-shaped projectiles to be dropped from ships, not airplanes. Delicate, fragile things, despite their size. A bad landing would more than jar their tender load of TNT.

"Sure," the pilots answered. They did, and to their credit it must be said they never made a bad landing with such a tricky load.

The tail end of summer slipped past. War seemed far away, up there in Canada. The Germans had fallen back to the Hindenberg Line, and that supposedly impregnable line was showing signs of crack-

ing. The hopes of Byrd and Hinton dissolved slowly. The Big Push was coming; their chances of making the flight were near the vanishing point.

But they continued their studies in navigation, perfected their instruments, and waited. . . . No word from the Navy Department . . . not a line about transatlantic flight preparations.

There was an occasional submarine scare: invariably the supposedly slender periscope would resolve itself into a floating spar just as the plane prepared to loose its load of explosive. Convoy work was not altogether exciting without submarines, however appreciative the transport captains might be of their absence.

November 11, 1918. The Armistice. Orders to turn over the two stations to the Canadians.

Byrd sorrowfully sent his planes south, broke up the camps and started for home. He was disappointed, discouraged, unhappy. He felt that his career was ruined. He had fought the war three thousand miles from the trenches. Commendations failed to flatter him.

He was tired; and the horizons he would hurdle seemed farther still.

CHAPTER IV

EARLY ATTEMPTS TO JUMP THE ATLANTIC

BUT not for long, really, was he to be removed from the rare adventure his heart had come to clamor for. He was not the only man who had dreamed of great things for this new-found instrument of science. Even as he turned toward Washington, other men, excited men, forerunners of a new race of heroes, calm, thin-faced men with unruly hair and wide-spaced eyes, were turning toward Newfoundland. And its desolate shores, whose deep silences first echoed to a propeller's high-pitched drone with the coming of Byrd, were soon to become the lonely stage of man's first successful attempt to conquer an ocean with an airplane.

To-day, with the accomplishments of Lindbergh, Chamberlin, Byrd and a host of others freshly imbedded in memory, it is difficult to contrive much excitement over the efforts of those pioneers of Trepassey and St. John's. In retrospect, the hurly-burly of 1919 seems far off and unimportant, and its results comparatively trivial in comparison with those that came eight years later. Indeed, those who can remember the names of the first to cross the Atlantic by air are few. Byrd's own part is comparatively forgotten.

But they were important days; probably, in a measure, the most spectacular since Bleriot, ten years before, crossed the Channel. No less than seven flying teams at one time were competitively distributed

within the radius of one hundred miles of one another, eager to go. No less than two million dollars were spent by the British and American governments and private concerns within a few months to equip these seven expeditions. It was dangerous because then the unexplored areas of aeronautical science were broad. Although, in 1914, a German airplane had remained aloft for twenty-four hours without refueling, motor performance was largely a matter to be entrusted to the gods; and aerial navigation, unquestionably one of the most important factors of all, was yet to be tested.

Possibly it was this element of danger, of the unknown, that provided the propulsive force to these enterprises. Again, there was a really sincere desire to accomplish something. After the war, there was an obvious open field for goodwill missions, and the dispatch of the *NC* boats was motivated as much by the desire to extend the hand of international goodfellowship as to give prestige to the Navy's aviation. The British teams doubtless had the same laudable ambition, but as a particularly provocative incentive there was the matter of the fifty-thousand dollar prize offered by the *Daily Mail* for the first plane to cross the North Atlantic, non-stop.

They were robust days, careless days, full of the swing and the eagerness that the more romantic among us have come to believe are aviation's heritages. But the world had just passed through four years of titanic struggle. Its emotions had run dry. Millions of men had died; heroes were trickling home. Nations were changing their stride. And it was hard to become overly moved by these strange events in far-off Newfoundland. Even newspapers paused before sending reporters that distance. As for the high-pressure feature writers who were to infest flying fields when

transatlantic flying became a business, they were few and far between at Newfoundland in 1919.

Byrd, hastening to Washington, had heard that the British would try the flight. He knew it was bound to come. But for himself he had quite given up hope. It did not seem probable that the Navy would now permit such a hazardous venture without the extenuating circumstances of war needs. He was discouraged. He had failed to get into action. His war record seemed pitifully prosaic. And, for one of the few times in his life, he thought of leaving the Navy.

But en route he heard that the Navy would try the flight, after all. Could it be that he, too, would go? In his excitement he hastened directly to Washington, not stopping even to see his family, then in Boston. He barged into the Navy Department, brimming with confidence. A moment later he received the cruelest disappointment he had in his life. The flight was to be pushed through at once, yes; but—

"No officer or man who has had foreign duty will be permitted to be a member of the transatlantic flight expedition. This includes those who have been on Canadian detail."

The hand holding the report trembled. That those agonizing months at Newfoundland should nullify his one great ambition! It was bitter. He was taken sick, influenza, and for days fluttered on the borderline of pneumonia. Before he arose, he was struck a still crueler blow. He was to be transferred to Pensacola.

In his own book, Byrd quietly tells what he did. Just a day past his crisis, he staggered to a telephone and called up his friend, J. H. Towers, who was to command the expedition.

"Do you still want me to help out on this flight?" he asked.

"Decidedly so," Towers replied. That was all Byrd wanted to know. He lay back, and set his mind toward recovering his strength. Straight from the hospital he headed toward the office of Captain N. E. Irwin, director of aviation. A pale, sickly young officer Byrd was, and Irwin was broad, husky and healthy. The contrast must have been discouraging, but what Byrd lacked he balanced with irritation.

In hot words he offered his superior officer not a few suggestions for improving the general quality of the Navy, and, they say, with regard to its conduct of the aeronautical branch he was positively venomous. He succinctly reviewed Irwin's conduct and judgment in this transfer in language not to be found in the Naval Manual. Then, as suddenly, the fire left him. He realized he was a naval officer, and Irwin was his superior. He choked.

"Well——?" asked Irwin.

"That's about all, sir," Byrd said weakly.

"I think it was quite enough," Captain Irwin concluded. Then he smiled. Byrd was not transferred. By January plans were moving forward at high speed. Two more planes, sister-ships of the *NC-1,* were ordered built as quickly as possible. President Wilson was highly in favor of the mission and, in February, Secretary of the Navy Daniels affixed his official sanction to the project. The best talent was shanghaied from every branch of the Navy—mechanics, radio men, engineers, pilots, navigators—to insure highly efficient crews. Eight of the officers, including Byrd, were mustered into a special department, temporarily divorced from the red-tape restrictions of most Navy Departments, called the "Transatlantic Flight Section of the Bureau of Aeronautics."

Byrd's spirits raced. Although his specific duties were to develop navigational preparations for the flight and, at the same time, to handle advance physical preparations, there was the possibility that the last moments would open the way for him to go. He was ever optimistic—then as now. By the end of March, the first organized overseas airplane expedition in history was in factual existence. The two new ships were built and awaited only testing; and the men had been trained in their various duties.

On April 21, the whole expedition was bodily moved to the Naval Air Station at Far Rockaway, destined to become the base from which the first aerial crossing of the Atlantic was to be made. The place hummed with activity. Machine shops were built overnight on the spot. There were delays, and interruption, and confusion, of course; they were to be expected. Yet, in view of the inexperience of all in a flight of this nature, the Navy did astonishingly well.

Too, there was need of hurry. Competitors were not lacking in aggressive enterprise. Captain Harry Hawker, one of England's greatest pilots, had departed by steamer from England with his single-engined Sopwith biplane and, by the end of March, landed it at St. John's after great difficulties. Winter still hung over Newfoundland, and a great barrier of ice, pressed against the shore by easterly winds and extending forty miles out to sea, compelled him to transfer his plane to a smaller ship, which brought it to Placentia whence it was shipped by rail to St. John's.

Unfortunate delays they were, and discouraging, but they scarcely disturbed the even-tempered ways of Hawker, dark, frail and taciturn, and his jolly navigator, Lt.-Commander Harry Grieve, robust and blond, who, although he had not four hours' "dual" in his flying experience, looked complacently upon the

probability that he would be compelled to shoulder part of the burden of piloting during one of the most spectacular flights ever made. They met a hundred difficulties, and conquered them. Where those who, nine years later, were to essay the same flight from runways as flat as a billiard table, they mildly went about reclaiming a farm field, the only plateau on Mount Pearl. Finished, it looked no more symmetrical than a subway excavation in early construction. It was barely six hundred yards long, an irregular base in a saucer of trees, in which rocks, gullies and shrubbery were not disturbed from their natural setting even though they constituted a tremendous hazard to a fully loaded ship.

"Pretty rough, Grieve," said Hawker, a typical Britisher whose flying raiment consisted of plus-fours.

"I guess we can make it," his navigator responded. It mattered not that one of the bitterest snow and rain squalls was sweeping out of the northeast, and their take-off field was a quagmire. Their ship had been assembled. There would be a test flight, a matter for a few hours or so, and then they would start, possibly within a week. Whereupon, that decision made, they went off for tea.

On April 11, Major F. P. Raynham disembarked his flaming red Martinsyde scout and set up his headquarters at Qui Vidi, several miles removed from the Glendenning farm where his rivals were. Raynham was accompanied by a co-pilot and navigator, Captain Charles William Frederick Morgan. Although very young, Raynham's flying certificate was one of the oldest in England. He was tall and dark, and soft in speech, the British public school type; and in many ways he and Morgan made one of the most picturesque flying teams in history. Morgan had lost a leg in the war.

Quite casually they had prepared for this most difficult venture, a twenty-one hundred mile ocean hop in a single-engined, open cockpit plane. Seven weeks before they left England they were asked to make the flight. "Of course," they replied. A stock job, possessing none of the special devices with which Hawker's ship was equipped, was turned out within that time, given a four-hour endurance test, crated and shipped. Prize money? There was to be none.

"This flight dangerous?" Raynham replied to interviewers. "Possibly. But it's just part of my day's work." The day after he arrived, he dropped in upon Hawker and the two of them chatted at length; not once, however, did they mention the flight.

And other competitors were making ready. There was talk of a huge bomber being made ready at the Handley-Page factories in England; of a Vickers-Vimy twin-engined plane to be flown by Alcock and Brown. And the internationally-known Short brothers were building a craft to be flown from Ireland to Newfoundland. And the British dirigible, the *R-34,* they said, was being subjected to tremendous testing for the same purpose. Indeed, there was competition, and it behooved the Americans, handicapped by the clumsiness of their huge expedition, to hasten.

Byrd and his associates toiled night and day at Far Rockaway, spurred on by the activity of rivals. They drew hope from the fact that weather reports, however optimistic the British might be, indicated that a start could not be made before May. Visitors stormed the hangars, gazing in astonishment upon these extraordinary affairs. The first real ballyhoo in aviation began to bleat; a high-pressure publicity department was set up in the hangar and the aeronautical division of the Navy, freed for the moment from the disparaging and often nearly destructive attitude of

old-line Admirals, at last came to look happily on life and to feel that it had acquired autonomy over its own destiny.

It will be a long time, I dare say, before the world is treated to another such sight as that which took place at Far Rockaway, on the morning of May 9, when these three mighty ships, each six times heavier than Lindbergh's *Spirit of St. Louis,* rose from the waters with a great thrumming of propellers and swung majestically into the sun, bound for Halifax, five hundred and forty nautical miles away. The public had given them the soubriquet of "the Nancies" because of the naval designation, the *NC-1, NC-3* and the *NC-4.* Bigger planes have since been built, if not successfully operated; but in their times the *NC* boats were the biggest things that flew.

Each had a wing spread of one hundred twenty-six feet—almost three times that of Hawker's and Raynham's crafts. Four four-hundred-horse-power Liberties powered them. Carrying a full load, and that meant one thousand eight hundred and ninety gallons of gas, each weighed seven and one-quarter tons, but their top speed then was less than eighty miles an hour. Indeed, weather conditions being what they are, the designers had conservatively estimated their cruising speed at sixty miles an hour, a speed which most stock automobiles to-day will touch.

Six men comprised the crew of each plane—a commanding officer, two pilots, a radio operator, an engineer-mechanic and a reserve pilot-engineer. Commander J. H. Towers, whose flagship was the *NC-3,* was in command of the flotilla. Lt.-Commander P. N. L. Bellinger, a brilliant naval flyer, gave orders on the *NC-1.* And Lt.-Commander A. C. Read, whom fate was to choose as the first man to fly across the Atlantic, was in command of *NC-4.*

Byrd, still vaguely operating under floating orders, was aboard the *NC-3* on the flight up the coast and that experience, brief as it was, was to provide him with his first taste of transatlantic flying. More, he had his first real opportunity to test those special navigational devices for the development of which he was peculiarly responsible and which contributed a great deal to the surprisingly good navigational exhibition given by all boats. I mean particularly the Byrd sextant, which I have already metioned, and the drift indicators. After all, it must be remembered that this was actually the first time a fleet of airplanes was scientifically navigated out of sight of land, and there was much to be learned, much to be discovered in dangerous laboratory experiment.

In his account of the first leg of the flight, Commander Towers described Byrd as a very active scientist indeed. Towers was a quiet sort of a chap, and the vast activities of his junior officer who, he knew, could not hope to make the flight, astonished him. The two of them were packed into a very narrow cockpit forward, the spatial limitations of which were further impoverished by the mass of charts, sextants, indicators and whatnot Byrd had accumulated.

While Towers sat easily in his metal seat, listening to the sharp voice of his pilot, and giving orders, Byrd was feverishly trying out flares, calculating drift, speed and bearings. Down in his heart, although he stubbornly refused to close its doors against hope, he knew that this would be his only adventure for the moment. But he was building new dreams. Even as they swung up the coast, there crystallized in his mind a determination to make the flight himself—a flight when he would be in command. Nine years were to pass before it would come to pass; other thrilling ex-

peditions were to press in between, but never did he once swerve from this first determination.

A few hours out they ran into very bad weather, and the planes, which were flying in formation, swung farther and farther apart. Finally the *NC-4* began to lag: Read reported to them by wireless that two motors were missing. Just as they pitched into a disconcerting squall, it disappeared and they were not to learn until they reached Halifax that the *Four* had been forced to come down one hundred miles off Chatham, Mass., with two motors crippled. The *NC-1* moved on complacently beside them.

At 8:30 o'clock, Halifax time, the two boats came down easily in the harbor while the base ship, U.S.S. *Baltimore,* which had preceded the expedition, let loose with a joyous salvo of steam whistles. It had been truly a neat job in navigation, in engine performance, and the Yankees in a foreign harbor felt no reluctance against crowing. A feeling of optimism surcharged the atmosphere. The good people of Halifax, eager to see the Yanks and their mighty planes, swarmed to the shores and a half-holiday was spontaneously declared.

But the first troubles which were later to bring despair had overtaken them. Examination of the *NC-3* disclosed a cracked prop, and the *NC-1* had three in similar condition. Although the base ship was liberally supplied with spare propellers, there were no hub plates on hand. The two commanders went into a huddle over this unexepected difficulty; for a time it seemed as if they would be compelled to lie idle while these fittings, seemingly so inconspicuous, were rushed from the States. Then Byrd remembered that he had left a goodly supply of these plates with the Canadian authorities when he abandoned his stations. He de-

parted in a speed boat, found the plates after an industrious search, and returned.

By dawn the two planes were ready to start, having refueled from the *Baltimore.* A cracked starter on the *NC-3* contributed a short delay, and the *One* went on ahead, the *Three* leaving shortly after noon, for Trepassey, four hundred and sixty nautical miles away, was their goal. On this short flight, which was to close Byrd's association with the expedition, they had their first important test of navigational instruments. Barely out of the harbor, they ran into a blustering quartering wind which tended to nudge them, at times, thirty degrees off their course.

Byrd hurriedly communicated his findings to Towers, and the Commander immediately corrected his compass course. It was taking something of a chance, for these new instruments had not proved themselves infallible. But, as Byrd himself phrased it, they had the courage of their conviction. He was more than a little elated, therefore, when they sighted land exactly where he had calculated.

It was bitterly cold at the altitude, which varied from three thousand to five thousand feet, at which they flew. Underneath they sighted a dozen great icebergs. The forty-five mile an hour wind quartering on the tail pushed them along at an extraordinary clip, although they ran into much bumpy air. The two planes proved airworthy enough. Six hours and fifty minutes after they had quit Halifax they came down nicely at Trepassey, whose bay was to provide the springboard for the first transatlantic hop.

The U.S.S. *Aroostook,* which had preceded the expedition to Newfoundland, lay glistening in the sun, and the *NC-3* taxied to her gallantly. The *One* was already there, having arrived almost four hours earlier. Curiously enough they had averaged the same flying

time, almost to the minute. A more glorious day could not be desired. A brisk wind ruffled the harbor, the sun was bright and strong, and the harbor was gay with fisher craft which had come in to welcome the "Yanks."

Trepassey was a glamorous place, a quaint place, for this modern undertaking. It lay at the southern tip of the Avalon peninsula, and was singularly rich in robust tradition. It was the scene of one of Lord Baltimore's early colonizations, until the rigors of winter compelled him to abandon it and turn to the more temperate clime of Chesapeake Bay. One of his forts lay in ruins on the eastern headland, its only remaining armament, two ancient cannons, rusting in the sod. Too, local saga-tellers insisted this lovely bay was once the northern base from which Captain Kidd rushed out to ambush opulent traders, and there was scarcely a reef or bay that was not proudly pointed out as having once cradled treasure chests and the bleaching bones of sailors. Tiny white, gray and green houses, uniformly geometrical, dotted the hills, and the fishing boats, from which the some three hundred inhabitants drew their scanty living, lay almost at their doors.

With a magnificent gesture, Byrd and his shipmates stormed this almost forgotten place, bringing with them the astonishments of modern science. The minelayer *Aroostook,* the fuel ship *Hisko* and the floating machine ship *Prairie,* made a brave sight in the harbor; and the inhabitants, who never before had seen such an assemblage of men-o'-war, gave them almost as much attention as the seaplanes.

While the gobs tumbled ashore on excited "liberty," the airmen gave all their energies to the motors. Both planes had come through amazingly well, the only evidence of the strain being a bent aileron on the *One* and

a leaky gravity tank on *Three.* There was much debating over the delay of Read in the *Four.* Radio dispatches from Chatham told how he had been forced down at sea, missing the destroyer in his path, and compelled to taxi through the night on two good motors to shore. The motors had been repaired, but the plane was reported to be weather-bound. Unfortunate as had been the mishap, the Americans found some solace in it. It had at least proved the seaworthiness of the hulls of the "Nancies."

Now, while waiting for their colleague, the Navy flyers watched their British rivals. Hawker and his Sopwith, Raynham and his Martinsyde were physically ready to depart, but weather continued to hold their planes in the hangars. It is worthy of note here, how competently and thoroughly the Americans had planned, and how the British had been content to leave much to chance. William P. Beazell, correspondent of the New York *World* and a careful student of British preparations, recounted in one of his dispatches from St. John's that over a period of three weeks the British teams had received only three good rate weather reports. The Americans, on the other hand, ventured forth only after having established an excellent weather-reporting bureau in Washington, specially detailed to the collating of transoceanic conditions; some fifty warships were patrolling the course of flight, and daily reporting conditions in their vicinity. Moreover, Lieutenant R. S. Barratt, aerographer, and W. R. Gregg, specialist on wind conditions in the upper altitudes, were detailed to the *Aroostook,* to prepare weather charts from the meteorological information that was pouring into Trepassey from a hundred far-spread sources.

Weather, indeed, as these first transatlantic flyers realized, was more than of passing importance. Plung-

ing into two thousand, one hundred miles of sea flight, with motors which had not been tested over ten hours of sustained flight, they could not afford to chance running into storm. There was the danger of being flung far off the course and, due to extra fuel consumption, of coming down at sea, perhaps lost and far from help. This was a factor of which Byrd was sensitively appreciative, and in the long conferences he held with his shipmates, he repeatedly emphasized it. They must wait for a west wind, a tail-wind, which would push the planes gently toward the other continent.

It would be interesting, I think, hastily to outline the more striking differences and resemblances between these various expeditions. The newspapers were already building up the impression of tremendous competition, and international ramifications contributed a certain zest to it. Moreover, for those who will be inclined to seek a parallel between the later flights and those of 1919, there is much that is significantly interesting.

The specifications of the *NC* boats I have already described. Multi-engined planes, they presumably incorporated every then known factor of safety for transoceanic flying. The hulls had been built structurally staunch enough to withstand ordinary seas, and, on its flight from Halifax to Trepassey, it had been demonstrated by the *NC-3* that minor motor repairs could be made without a descent. Each plane carried a highly developed wireless set, with a range of several hundred miles, and upon these the Americans placed much faith, not only as a complementary aid to navigation, but also for rushing assistance in an emergency. To the last possible detail, Byrd and his colleagues had reduced the element of "stunt" and

broadened as far as possible the scientific factors of safety.

Hawker and Raynham, on the other hand, did not look with much enthusiasm upon the contended greater reliability of the four-motored flying boats. Their faith rested upon the single Rolls-Royce Falcon motor that powered their comparatively tiny planes. Whereas the "Nancies" at full load could not anticipate much more than seventy miles an hour cruising speed, they were depending upon their three-hundred-and-seventy-five-horse-power unit to turn up at least one hundred miles an hour during the flight to Ireland. The extra engines, they contended, contributed only extra weight and additional opportunities for trouble, besides involving a sacrifice of maneuverability. Both the Martinsyde and the Sopwith were equipped with radio sets; their principal function being to broadcast reports to steamers, for their receiving range was negligible.

Yet it must be said that the equipment with which Hawker and Grieve had equipped themselves in the event of a forced landing at sea was surprisingly well planned; indeed, far better than those had who were to try the flight years later. In the fuselage aft they had had built a snugly fitted boat, so streamlined as to become part of the fuselage itself, but which could be released by the mere pulling of a cord. Too, each planned to wear specially designed rubber suits, weighted at the soles, which they hopefully believed might keep them afloat if the crash at sea should wreck the little boat. Raynham, however, would not clutter up his ship with such accessories. Scorning extra weight, he wholeheartedly entrusted his faith to his engine. If that failed, well . . . they had their regulation waistcoats, with air chambers in the front and back.

"There's not much use worrying about what will happen when you come down," said Morgan, phlegmatically. "If you come down, you're down. Nothing is going to help you much."

As a reflection of the amount of confidence the public had in the successful outcome of the flight, Lloyd's in London was betting five to one against Hawker's chances of reaching Ireland, and eight to one against Raynham. To cool-headed gamblers who dealt in ponderables, it seemed more than a long shot that either of these planes, with maximum ranges of twenty-five hundred miles, with a four-hour fuel margin above the necessities, and depending upon untried navigational methods, should be able to reach their goals, North Atlantic weather conditions being what they were. But the pessimism was not shared by the flyers.

"I think," said Raynham, when he heard of the odds, "that Lloyd's is a wee bit balmy. I have rather decided to bet fifty quid on myself." He wired his backers in London to make the bet, and Hawker, who was equally amused, did the same.

Meanwhile another flying team had come upon the stage—Captain Alcock and Lieutenant Brown, bringing with them a Vickers-Vimy bomber, a powerfully-built ship powered by two three-hundred-and-fifty-horse-power Rolls-Royce engines. Before it had even been uncrated, the Vickers-Vimy became the "dark horse" of the "race." After all, Alcock was one of the best known Allied flyers, with an almost unsurpassed record of forty-eight hundred hours in the air. An ace with seven German planes to his credit, he had made the longest bombing flight during the war. During the siege of the Dardanelles, he was the first man to bomb Constantinople and, in a single-handed sortie against Adrianople, his bombs caused the destruction by fire of some three thousand homes, a long ammunition train and an important fortress. His record closed

suddenly in 1917, when he was captured by the Turks.

Six feet tall, with the same chockiness in build as the plane he flew, Alcock stood tangibly for quiet confidence and potential accomplishment. He had the ruddy face of an English squire, and his blond hair was brushed briskly back. He gave an immediate impression of solidity, and the faith those who met him seemed instantly to sense was to be justified. Alcock was to be the first man to pilot a heavier-than-air machine on a non-stop flight across the Atlantic.

Such was the situation within three days after Byrd and his shipmates landed at Trepassey. Confident as they were in the superior advantages of their craft, the Americans chafed under the delay. Where was Read? Meager reports from Chatham told he was still weather-bound. It seemed a most unfortunate break. Here at Trepassey, where good weather in spring is always phenomenal, each day was beautifully clear. Even the natives were amazed over its excellence; and cod traps were brought out and repaired, potato patches planted and schooners painted by the score, tasks which were usually laid over until May had passed.

For Byrd, meanwhile, the final blow had come. Towers and Bellinger, despite the Navy's dictum, were anxious to let him accompany the expedition. They were more than pleased with his work. And Washington and its orders seemed impotently distant, Then, just when his optimism reached its peak, there came a wire expressly ordering him not to accompany the expedition. The last door had shut in his face, and it was almost heart-breaking. Yet it did not diminish his work. Night and day he pitched in and helped out in the multiplying duties.

On May 15 Towers, Bellinger, Byrd and the other flying officers held a conference aboard the *Aroostook,*

and it was decided that the *NC-1* and the *NC-3* would start that afternoon, without waiting for the *NC-4*. The day before when they were on the verge of starting they were held by the report that *Four* had left Chatham with the intention of making a non-stop flight to Trepassey. It was the sporting thing to do. When it failed to appear, further waiting tended only to jeopardize their hopes. Splendid flying weather lay just beyond the headlands. From the States came reports of public irritation over the delay. Taxpayers, realizing how much the war had cost, began to clamor about using the United States Navy for police duty. And the British were showing signs of getting ready. . . .

That afternoon the two boats manned by their crews were fueled and taxied into position far out in the bay and headed to sea. With a mighy beating of propellers they porpoised into the east, trying each to lift its fourteen and one-half tons of load. Then the salvo died away and the two planes swung back. They had started too far out in the Narrows and had run into choppy seas. Towers ordered them back for another start. Barely were they in position when another discord smote the silence. A moment later an airplane flying high and fast swam into the southern sky. It was the *NC-4!*

"It's off for to-day," Towers shouted. "It's Read and the *Four*." Its sister ships were taxied back to the mother ship and the crews piled out to welcome the shipmates whom they had not seen since the *Four* fell out of line off Chatham. The barest miscalculation had brought the three ships together again. If Towers and Bellinger had begun their run deeper in the Narrows the ending of the flight might have been changed. The *Four* instead of starting on equal terms might have been left far behind.

So it was, too, that three crews had dinner that night aboard the *Aroostook,* and the others learned of the mishaps that had befallen Read and his crew. Compelled to land at Halifax the day before, they had hopped off early in the morning in the hope of intercepting the *One* and *Three.* Eighteen miles northeast of their starting point, failure of an oil pump forced them down in the open sea. For nearly three hours, while the plane bobbed in the waves, the crew labored over the pump and finally got the plane under way again. Once aloft the *Four* made splendid time, helped along by a following wind.

That night while his comrades planned their own great adventure, Byrd pondered over a sudden change in his orders. He had been detailed to assist in navigation on the *C-5,* a non-rigid dirigible which had just been flown from Long Island to St. John's and which the Navy planned to send across the Atlantic. It was the most doubtful medium of all—a tiny thing, scarcely one-tenth the size of the *Los Angeles* of to-day.

But at least it offered to Byrd the chance of making the flight. He enthusiastically mentioned the matter at dinner. "But I saw an airship headed to sea," Read suddenly interrupted, "just before we sighted Trepassey."

A moment later he learned the worst. A radio informed them all that the *C-5* had broken away from its mooring during a storm and was lost. Once more fate had dealt him a new discouragement.

"We shall start," Towers announced, as the plates were cleared away, "to-morrow afternoon."

That night mechanics, who had not slept in five days, toiled over the *NC-4,* installing a new motor. It was not until late in the afternoon of the following day that their work was done. Even then the new motor showed a recalcitrant stiffness, and, as the sun sunk

low in the west, the *Three* and the *One* taxied impatiently about the harbor, waiting once more upon the harassed *Four.* But at last it was ready. The new motor burst into song and throttled sweetly.

At seven-thirty o'clock Commander Towers, Admiral of the first commissioned fleet of seaplanes in the world, rose in the cockpit of the *Three,* stretched a long arm toward the south and cried: "Let's go!"

The motors sung a throaty answer and the *NC-3,* with a great tail of water turning up under its hull, headed straight down into freshening wind in its path, down into a ribbon of gold laid by the dying sun, and three minutes later light showed under its hull.

Five minutes later, Read, in the *Four,* broke out the signal—"Let's go!"—and was off and away. Then Bellinger, in *One!* Within eleven minutes after Towers' dramatic order, the fleet had cleared the harbor and, with a mingled harmony of engines that echoed tumultuously in the harbor, all were swinging across Powell's Head and making for Mistaken Point, where they would make their formal departure from the Western Hemisphere.

On a tall hill behind the bay, a slight figure stood impassively, watching until the skies swallowed these aerial caravels which, four hundred years later, were off to return in modern style the courtesy visit of Columbus. It was Byrd, lonely, heart-broken, but proud that he had at least contributed a small part to what to him then seemed the greatest of all adventures. Long after the planes had vanished he stood there in contemplation, and the bottom seemed to have dropped out of his world.

Then he hurried back to the *Aroostook* to get the radio bulletins. One by one, through the night, the destroyers stationed on the lane between Newfoundland and Horta, the Island of Fayal, Azores, the end

of the first leg, checked the progress of the planes. Conversation between the planes and the ships took place. As the *One* swung over the destroyer *Ward,* to its Commander Milton Davis, it looked like a slow-moving red star.

"Ward—fine journey," his searchlight, boring great holes in the sky, blinked.

"Thank you," stuttered back the light in the sky. And then it disappeared.

Byrd waited no longer. Packing his grip, he hastened to St. John's, arriving in time to learn from the late editions that Read and the *Four* had safely completed the thousand-mile hop to Horta, but the other two planes were missing, having been left behind in the clouds. Cold fear struck him. That afternoon he bought every extra. But still no news. He refused to go south until he learned the fates of Towers and Bellinger.

A grim and courageous tale it was, when finally assembled. A fog had come with dawn and dissipated the fleet with its journey's end a few miles away. Towers, finding the fuel in the flagship low, ordered a landing and miscalculated the roughness of the sea. The impact stove in the hull and water spurted in. The crash had ruined the radio sending set. All day long they drifted and at night a terrific storm assailed them. How the smashed plane rode it out is almost beyond comprehension.

But it rode out the day and another night, although the passing of each hour seemed it must be the last. As the storm subsided and the wretched men reconciled themselves to the failure of the search for them, they set about navigating the leaking plane toward the Island of St. Miguel. This they did with the rudder. And toward dawn of the second day, when hope seemed very faint indeed, they sighted land.

Though a destroyer rushed out to meet them, Towers and his shipmates, refreshed by joy, refused all assistance. They would come in under their own power! And with the pilot, Lieutenant D. H. McCullough, nursing the three engines that had surprisingly responded to the mechanic's ministrations, the *NC-4* moved into Ponta Delga, where Read, who had landed at Horta, one hundred and fifty miles away, joined them the next day.

There, too, were Bellinger and his five shipmates of the *One,* who had fared almost as badly. Forced down by mist, the big seaplane thwacked against a huge wave and barely escaped capsizing. While their suffering was not so protracted, it was quite as intense. Not until they had endured six hours of pounding were they picked up by a passing freighter.

It was the first graphic demonstration of the hazards of transatlantic flying. But it did not discourage Captain Read. Under orders of the Navy Department to proceed, Read rose from Ponta Delga's lovely harbor on the 27th, after having been storm-bound for six days, and landed at Lisbon less than ten hours later.

Although it may seem an extraneous addition to a biography of Commander Byrd, I should like to recount here the fate of the British expeditions. For in their struggle against the odds; in the gallant way they challenged the hidden dangers of the sky, stormed citadels human eyes had never gazed upon with the mobile spear that is the airplane, they singularly symbolize the life and times in which Byrd moved.

Two days after the "Nancies" had swung out of Trepassey, Hawker and Grieve made a final inspection of the Sopwith, hopped in and sent it roaring down the rock-shod hummocks of Mount Pearl. Barely did they clear the trees, so short was the take-

off and so great the load of fuel. But Hawker leveled it off nicely, dropped the landing gear and headed smartly . . . for Ireland.

And at Qui Vidi, Raynham and Morgan, not to be left behind, tuned up the Martinsyde and gave it full throttle. In their eagerness to follow they took a desperate chance on a cross-wind and lost. Where twenty yards more of level ground might have given them necessary flying speed, the heavily freighted Martinsyde lunged into a depression and smashed, crushing the two men in a mass of wreckage and injuring them so badly they required hospital care.

Though for seven days the fate of Hawker hung in doubt until it was learned that the Danish tramp *Mary* had picked him up in mid-sea, neither Raynham and Morgan nor Alcock and Brown, gave up their intentions. The Martinsyde was being rebuilt; the Vickers-Vimy was assembled and ready at an open field two miles removed from the Sopwith's starting place. And a mighty Handley-Page bomber, built originally for raids on Berlin, was being assembled at Harbor Grace, eighty-five miles to the north.

This last was easily the mightiest heavier-than-air craft ever to essay the transatlantic flight. Powered by four three-hundred-and-seventy-five-horse-power Rolls-Royce engines, it was believed capable of carrying four men and nearly eight tons of fuel for twenty-two hours of sustained flight. It was indeed a monstrous thing. With a transatlantic load, it weighed just under fifteen tons. The wheels were fifty inches in diameter, and each tire cost four hundred dollars.

A fifty-four-year-old gentleman, Rear Admiral Mark Kerr, R.N., retired, who had transferred to the Air Force to make room for a younger man, had dreamed this project, and in spite of his age held a pilot's license. Besides, he was a poet of recognized

ability. By contrast, his chief pilot was a smooth-faced boy, Major H. G. Brackley, just turned twenty-four, who had left school to enter ground school and the war.

For half the month of June, Alcock and Brown waited out the winds. Just before he left for the States, Byrd dropped in to look over their machine, and they gladly explained it to him; showed him the various refinements they had brought into the ship to increase safety factors—the special filters for fuel and water, to prevent the clogging of the lines that brought Hawker down; the brass petrol tanks which were so chosen because they would not magnetize the compasses; and the dump valves in the fuel tanks by which, in the event of a forced landing, they planned to dump out the fuel and transform the tanks into life rafts.

The Britishers, who had heard of Byrd's sextant, asked permission to borrow one, and he promised to have one sent. Early in June, the Navy Department in Washington notified Alcock that one was on the way. "I hope it gets here on time," the British pilot answered. "It's better than anything we have here." The sextant, however, did not arrive until they had started.

On the afternoon of June 14, the Vickers-Vimy rose into a wracking gale that raged out of the west, wavered between heaven and earth for ten minutes while Alcock superbly adjusted its crushing weights to the commingled thrust of propellers and storm, and then guided it over the rim of hills that lay between St. John's and Conception Bay. A more spectacular take-off has probably never been made. And the spirit in which it was made is as gallant a page as any in aeronautical annals.

At dawn the flyers were at the field, stirred by a

report that the Handley-Page, which had already been tested, was ready to start. It mattered not that a gale was blowing. Gale or no gale, half-load or full-load, Alcock would take a chance, and he bluntly told the Vickers representative so. That man looked at the storm clouds scudding across the sky, and smiled.

"All right," he answered, "we'll take the chance."

Packets of sandwiches, bottles filled with hot coffee, a bottle of brandy, were put in the plane. An air of intense excitement swept over the half a hundred people at Ropewalk field, and into the city that spread fanwise to the southeast and the north. The take-off field itself was atop a broad plateau, on the slopes and crest of which the city was built. A more natural theater stage could not be desired; and the good people of St. John's had only to stand in their doorways to see the spectacular start.

Although the gale lifted the plane off the ground within the first five hundred feet, the struggle came when Alcock tried to gain altitude. Those on the ground saw the wind press the blunt white nose downward until it seemed that the heavily loaded ship must crash in the dense spruce groves that lay in the valley. In the fear and excitement, one spectator bit his lip until the blood ran, and the people stood frozen in silence. But Alcock, with amazing skill, wangled clear and kept going until he realized his boast: "We'll head for Galway and when we get there we'll hang our hats on the wireless towers at Clifden!"

Sixteen hours and twelve minutes of one of the most terrible journeys ever undertaken—four hours of them in sleet so thick it sheathed the plane in a frozen coat, so thick it chewed their faces—and fog so dense they were compelled to fly at times less than three hundred feet above the water, during the last hour of which they had lost all sense of direction until they

sighted land, and came down in a bog at Clifden, in a crash that wrecked the bomber.

Sixteen hours and twelve minutes! It was astounding. An average speed of one hundred and twenty-five miles. It had taken Columbus seventy-one days to sail from Cadiz to San Salvador; the clipper ship *Dreadnaught* thirteen days and eight hours over the same distance; the *Mauretania* four days, ten hours and forty-one minutes; and the *NC-4* twenty-six hours and three minutes in actual flying time from Trepassey to Lisbon.

In Cleveland, Orville Wright, whom Lord Northcliffe had first consulted before he offered the fifty-thousand-dollar prize, listened to the news in astonishment.

"Only sixteen hours!" he repeated. "Are you sure?" Then, when he received confirmation, he broke into praise. "I was sure it would be done. Even if it took as many lives as the North Pole, it would be done. But it will be a long time before the airplane conquers the Atlantic.

"After successful flights are made, I don't think many others will be attempted. Aviators will give their attention to the less spectacular task of developing the airplane."

Although he saw no revolutionary technical advances in the immediate future, Mr. Wright forgot the spirit of men. And, markedly, the indomitable young naval officer who was then struggling from the wreckage of broken hopes, and building in his mind's eye more spectacular flights than these.

CHAPTER V

WHEREIN BYRD BECOMES A MASTER POLITICIAN

DURING the next five years, Byrd dropped his wings and fought his struggle, not in cloud-swept skies, but in the smoke-filled lobby halls of Congress. He assumed a new mission: that of unofficial lobbyist for the Navy in the Mitchell affair. In his own book, "Skyward", Byrd designates these years as a "Political Interlude". Rather they should have been entitled "Strange Interlude", for therein he undertook a task quite alien not only to his nature, but to his ultimate career as well. To find this idealist cast abruptly in the rôle of practical politician, a phase of his life that heretofore has been hidden darkly in naval files, is surprising. That he oriented himself so quickly, and succeeded so brilliantly, is another proof of the versatility of his character.

Let us, however, first analyze the situation that existed in the field of aviation when Byrd returned to Washington after the flight of the *NC* boats. One might almost shed tears over the sad circumstances in which the naval aviator found himself about that time, for his branch of the service occupied the relative position of a perplexing stepchild in the Navy family. In the first place, the Admirals of the old school, which is invariably reactionary, had little faith in the value of the airplane as an instrument of war. Secondly, they could not quite understand how the airplane could fit into the naval scheme of things. To them, definitively, the Navy meant battleships and

ships of line: it meant war on the seas—not individual combats a mile above their beloved element. Moreover, these enthusiastic young naval aviators irritated them not a little: they wanted too much.

So, pending further decision as to its fate, the Admirals neatly wrapped the aviation group in red tape and consigned it to the mercies of the Chief of Naval Operations, a sub-office, which was equivalent to packing last year's overcoat in mothballs and putting it away in the attic. There, they thought, it was safely out of the way for the moment, and they could devote their brains to persuading Congress to give them bigger and better battleships, which was their mission in life.

But not so safely as they thought. A great idea was meanwhile building in the head of General William Mitchell, a man of large vision, and much pertinacity. Quite unexpectedly, he emerged from the soporific calm of the War Department with the startling idea of merging the air units from the Army and Navy into a single department, co-equal with the other two branches of war. He rushed up and down the countryside, preaching his gospel of air-mindedness. He breezed into Congress and laid before the House Committee on Military Affairs his bill for a separate air force, not unlike that operated under Great Britain's autonomous Air Ministry. Such was the avowed sentiment of most Congressmen and the public that it seemed inevitable that the bill should pass.

Surveying it as a simple proposition, the Admirals at first held no brief against General Mitchell's plan. It was not until he metaphorically thumbed his nose at their beloved battleships that they felt the need of rebuking him. Old crates, he called them: beautiful things with which to welcome visiting dignitaries, but as instruments of effectiveness in coming wars—

bah! With the self-assurance of the military man who knows his statistics and explosive forces, he informed Congress that modern aircraft—aircraft at his disposal—could destroy the mightiest warship afloat, or any battleship that might be built. He challenged the Admirals to meet this test. His was a large view of impending aerial dominance, of the next great war fought and won in the air, and his thesis was: fewer $50,000,000 battleships, hundreds more $20,000 airplanes that are their superiors.

This was the situation Byrd found when he entered the Navy Building. No one knew which way to turn, nor had there been any organized effort to block Mitchell's onslaughts. Congress was obviously receptive to his idea. It was equally obvious that he must be stopped soon. For he was playing havoc with the visions of the "Big Navy" group, which is always the Navy, and there was no telling what his propaganda might accomplish in the minds of the legislators who must pass upon Naval appropriations.

Byrd was one of a group of old Navy flying men who met one day in the Bureau of Navigation. All dejectedly conceded that the Navy situation was bad enough generally, and hopeless where the aerial branch was concerned. To a man, however, they were vehemently opposed to Mitchell's plan of a separate air force. They took the stand that they were first of all Navy men; that they held the service above the branch in which they served. And what General Mitchell had set out to accomplish was decidedly contrary to good Navy ideas.

"That's all very well," lugubriously interrupted one man in the group, "but good intentions aren't going to do us much good. If we don't get a move on, if we can't show some organization for aviation in the Navy,

we'll find ourselves in Billy Mitchell's army, willy-nilly."

"We might," Byrd suggested in a quiet voice, "organize."

Organize! That was the idea. Fight Mitchell with his own weapons. Oppose him on the floor of Congress, where he had made his first great victories.

Whereupon, this little group of self-constituted Quixotes organized. Their first task, obviously, was to strengthen the position of aviation in the Navy. If that could be accomplished, then Mitchell's first great argument that the service air-group was in chaos, would be destroyed. Such strength, they calculated, might easily derive from the establishment of a separate Air Bureau within the Navy Department. Byrd agreed to write a bill for the birth of a Department of Aeronautics. His first political literature was a most impressive document, and the pioneers studied it closely.

"That's swell," announced one of them, "but just wait until some of the Admirals see it. If we don't get chased out of town to-morrow by a couple of battleships, we'll be in luck."

This prophet of pessimism was right. Captain Irwin, Director of Naval Aviation and titular head of that practically defunct office, frowned upon the idea and ordered the effort ceased. He warned Byrd that he opposed any effort to thrust the aviation end of the Navy into politics, and he made it particularly clear that he did not want Byrd to occupy himself in such activities. The almost tearful plea that ruination faced the service unless this step was taken did not shake his attitude. Byrd and his associates withdrew, quite convinced that opposition was futile.

And Mitchell meanwhile was growing stronger. It did not matter that Secretary of the Navy Daniels

had scoffed at his claim that bombs from airplanes could reduce a dreadnaught to splintered steel and had (merely for the sake of argument, nearly everybody readily recognized) volunteered to stand on the bridge of one of these ships while Mitchell and his army aviators peppered it with explosives. He had secretly won friends in Congress to his idea, and through them enough votes to compel the President to authorize the use of certain warships for aerial target practice. For reasons that are obvious, the powers in the Navy Department had stubbornly resisted this latter idea.

Certainly the militant General had prepared well for this happy day of proving his theory. All that summer he and his bombers had practiced bombing in the upper waters of Chesapeake Bay, raising havoc with fish life generally and with the blood pressures of the Admirals particularly. Mitchell had this advantage: thousands of tons of war materials, bombs, guns and airplane equipment, were available for the test. In a short time this stuff would be obsolete, and so the usual incontrovertible argument of economy could not be conjured up against him. More, for targets he demanded only the use of the German warships that were being turned over to the United States under the peace treaty. To all except those who had ground for bias, Mitchell's demand was extremely sound. It did seem an excellent idea to use this equipment, the employment of which would not pinch the Treasury, in an experiment that might save the country millions of dollars in preparing for another war.

Let it be said, now, that Byrd and the flyers who fought with him, did not object to this experiment, *per se*. What they did oppose was Mitchell's covert intent of using this experiment as a leverage to his dream of a huge air force. There was no denying of the fact

that much of Mitchell's plan was good. But its evils, in their opinion, outweighed its virtues. England's experiment in separate air control had not worked out very smoothly, although the geographic position of that country, particularly open to attack by bombers from a theoretical nation on the continent, rendered it peculiarly adaptable to autonomous air control. Time and time again, during periods of emergency, the British fleet had been unable to secure a proper and effective cooperation from the air service. The United States being so distantly removed by air from a theoretical enemy, and the range of aircraft being what it was in 1919-24, it seemed clear to Byrd and other naval aviators that trained naval aviators coöperating with the fleet, in whose maneuvers they had been drilled, and trained army aviatiors cooperating with the field forces, in whose tactics they had been trained, would be far more effective. Time and changing styles in military aircraft might some day compel the United States to accept General Mitchell's idea. But for the time being, they were convinced, if established it would only lead to confusion and perhaps danger.

About this time, too, the higher minds in the Navy Department began to realize the soundness of the stand taken by the little group. It was manifest that they must either submit to making naval aviation stronger, or else suffer the acceptance of Mitchell's idea of aerial dominance, which unquestionably meant more money for airplanes and less for battleships. When that happy understanding arrived, Byrd's path suddenly cleared.

Captain T. T. Craven supplanted Captain Irwin as Director of Aviation, and he speedily joined the Byrd group. Others joined too, a couple of Admirals, then Franklin D. Roosevelt, Assistant Secretary of the Navy. The proselyting of these powerful individuals

gave the movement the backing of officialdom that it needed. And when Secretary of the Navy Josephus Daniels finally consented to the carrying the fight to Congress's doorstep, the first part of the battle was won. Byrd's machinery was ready, his strategy decided upon. It was agreed that he should have *carte blanche* as unofficial Navy representative in pushing his Bill for the Bureau of Aeronautics.

Remember, that this was one of the most important military squabbles that ever reached Congress in peace time. Upon the outcome there virtually rested the alignment of the country's military forces. If Mitchell were to emerge as the winner, it might mean a radical recasting of the system of national defense. Mitchell was nearing the zenith of his power, and the Navy had its back against the wall. Indeed, as a first step toward his ultimate unified air service, he was reaching out to gain for the army the coastal patrol stations that had belonged to the Navy.

The prelude to the "Battle on the Hill", as Byrd refers to it, was the hearing conducted by the subcommittee of the House Committee on Military Affairs. This committee functioned simply to establish the merits of Mitchell's bill, and it must be said, however strenuously the Navy fought, that the honors went to the Army officer. Whereas the Navy's defense largely consisted of vehement denunciation of his plan, he strengthened it by the presentation of an imposing study in statistics . . . seventy-two thousand airplanes, mutually interchangeable in commercial and military uses, could be built at the cost required for the construction of the eighteen battleships allotted the United States under the arms agreement: and an important commission recruited from leaders in commercial aeronautics, the Army and Navy and the Council of National Defense, after a pains-

taking study of the situation in England, France and Italy, had unequivocally urged the establishment of a National Air Service, "co-equal in importance with the Departments of War, Navy and Commerce" and "concentration of air activities of the United States, military, naval and civilian" within this separate bureau, which was precisely what Mitchell demanded.

Byrd was among the Naval officers who appeared before this committee, and they soon learned that the tide of opinion had set against them. It was deliberately suggested that they had been "coerced" into opposition, in respect for the known opposition of the Navy Department. Devious stratagems were resorted to, to shake their testimony. But the "Old Guard" held fast. There were, however, some lovely scenes before that Committee which Byrd never forgot, and which gave him rare insight into politics.

For instance, one of the naval officers, challenging the statement of another man concerning a former army aviator, coolly remarked that the aviator had been removed for incompetence. It was hardly diplomatic, because the officer in question happened to be a Congressman tremendously interested in aeronautical matters, who also happened to be chairman of the very committee before which he testified.

He was on his feet at once. The pungent words of strong-minded men shook the atmosphere. There was much talk of fighting, and Byrd, who hadn't been in politics long enough to realize that this was just "play" for our master politicians, a bit of the vociferous drollery with which they enliven their dull days, quaintly chronicled that he stood back, expecting a fight. But ruffled minds were soon smoothed, the fiery charges removed from the report, and the hearing moved on its dull, lethargic path.

Still, Byrd adapted himself remarkably fast. He

won friends among Congressmen in golf matches. And he reached the thinking apparatus of inaccessible great minds through their less aloof secretaries and aides. Changing the action of the group mind, rendering it receptive to a new idea, Byrd learned quickly enough, depended not always upon logic, so much as upon diplomatic suasion. He must have been not a little bit astonished at the persuasive value of a netted serve, or a subtly deflected putt, at a crucial moment in a match. Most winners are inclined to be benevolent, particularly Congressmen.

One must not gather from this, however, that Byrd's task was an easy one. In the first place, Captain Craven, with a firm intention that all naval officers should be useful citizens, positively refused to let him carry on his political affairs during "Navy time." Consequently, Byrd was compelled to do his work before Congress in his spare time. He was indeed a busy man, and he then set a pace from which he has never dropped. And the politically wise General Mitchell, then getting ready to sink battleships right and left, was not too busy to attempt to clip the Navy's wings.

For instance, after Byrd had had his bill favorably reported out of the House and Senate Committees on Naval Affairs, and as the bill was about to be presented in the House, he learned that a prominent Congressman would speak against it. Not having anticipated such opposition, Byrd had neglected to provide himself with a defender, one who could extol the merits of the little bit of legislation which was to ride to its fate as an obscure appendix of the Naval Appropriations Bill. It was obvious that any sort of oratory might crush the bill; after all, few of the Congressmen knew much about the internal situation in which naval aeronautics found itself. Energetic

adjectives might easily ruin the planning of months.

In desperation, Byrd rushed about for supporters. Finally he blurted into the office of a Congressman he had never met, P. P. Campbell, rapidly outlined the importance of the bill, and pleaded with him to defend it. "Of course!" this gentleman replied. He proved equal to the occasion, and the bill passed the House. But when it ventured into the Senate it nearly perished as a result of a clever amendment suggested by General Mitchell. That suggestion, naïvely accepted by the late Senator LaFollette, was to compel the Chief of the proposed Bureau to be a pilot.

A seemingly innocent and attractive qualification, that the man who should be the superior of naval pilots should know how to fly. It was really an almost disastrous suggestion, for none of the Admirals had evinced any interest in piloting and, in view of the hardened reflexes that come by the time anybody becomes an Admiral, it was unlikely that any would. Moreover, it was certain that the job would not be given to any young flying officer. Truly, the shrewd General had contrived, let us say, "a pretty kettle of fish."

With characteristic directness Byrd went to Senator LaFollette, and urged him to drop, or amend his proposed amendment. The "strong boy" of the Senate listened quietly. As a last resort, Byrd suggested that the qualification for "pilot" be changed to "observer." LaFollette thanked him for the suggestion, but promised nothing. Byrd was now thoroughly alarmed. Direct means failing, he went to the Senator's son, "Young Bob", then serving as secretary to his distinguished father, and pleaded with him. The son was more than an appreciative audience: he was enthusiastic. Suffice it to say, he accomplished what Byrd feared that he personally had been unable to do.

After the bill had also been passed by the Senate, it was signed by the President. The first Bureau of Aeronautics was established in the Navy, and Rear Admiral William A. Moffett became its chief. For his work in building it, Byrd won the respect of many of his superiors, and commendations which have never reached the record books because of the unofficial nature of his duties. Indeed, such was his effectiveness that the Navy retained him, on and off, as a liaison officer on the Hill during the next three years.

The first victory was barely won in time. Mitchell's idea was gathering impetus in a bull market. And he was making ready for his historic attack upon the defenseless battleships. The German prizes had been turned over to this country, and the Navy Department, spurred by the joint action of the House and Senate, was drawing up the program of destruction (so Mitchell hoped). The list included several submarines and destroyers, the cruiser *Frankfort* and the dreadnaught *Ostfriesland.*

In spite of General Mitchell's enthusiasm, few of the Naval higher-ups expected a successful outcome to all his experiments. Thus, when the time for the tests came, early in June, 1921, there was much gentle guffawing behind mustaches. The Atlantic fleet moved majestically into Chesapeake Bay, anchoring in Lynnhaven Roads, to observe the bombing tests. Important naval dignitaries were aboard, and more Congressmen, probably, than had ever been so close to explosives at one time.

Byrd and his aviator friends, who knew something about aerial bombing, had no illusions, however. They knew full well that Mitchell should be able to realize his boast, and bomb the battleship and destroyers into helplessness. So they awaited the tests

with little of the doubt that held the captains of battleships.

What happened in the sunlit waters of Chesapeake Bay is history. One by one, Mitchell and his aviators sent submarines, torpedo boats and the cruiser to the bottom with well-placed missiles. Each destruction was more astonishing than the preceding one. Indeed, so powerful was the inference drawn, that, just before the aviators sallied forth in serried formations against the battleship, *Ostfriesland,* there was some talk that they be restrained from sinking the vessel, lest an overwrought public, excited by jingoists, demand the entire scrapping of the Navy.

Of course, such talk was rot. Mitchell was teaching a most important lesson, and sentiment should not have been permitted to interfere. A squadron of bombers, laden with two-thousand-pound projectiles, hummed over the helpless battleship, once a proud ship-of-line in the Kaiser's fleet, swooped low in curving flight and loosed their deadly cargoes. On the fourth shot, the *Ostfriesland* trembled from bow to stern: water boiled up around both sides, and the ship flopped over and nosed to the bottom. The sight of this stately giant of steel dealt a mortal blow by a few vague pebbles, speaking in comparisons, dropping from the sky, filled one with awe. Not a few of the spectators, men to whom battleships veritably amounted to a religion, wept openly.

Impressive as was this performance, so far as Mitchell's ultimate ambition was concerned it came to nought. In sinking the battleships he only intensified the hostility of the old Navy men. And as a by-product of the squabble he engendered in both services, naval aviation prospered immensely. The newly established Bureau found itself possessed of prestige and dignity to an amount it had never known before.

Money was forthcoming for experiments, so pressingly required, and for new planes. The effect of the general revitalizing of aeronautics in the service upon civil aeronautics was almost incalculable, in itself.

Byrd, therefore, derived not a little satisfaction from the part, however small, he played in this major drama, for he was tremendously interested in aviation and recognized its tremendous potentialities. Overburdened with routine duties in the Bureau, he often grew tired of being forced to stand on the sidelines while others, to use his own words, "carried the ball," but he did so because the optimism in him was strong. He was convinced his chance would come later. And he was carefully studying, turning over in his mind, more academically than emotionally, the idea of a solo flight across the Atlantic in a single-engined plane.

July, 1921, came and breathed hotly upon this idea, as daring a one as was ever contemplated by a flying man. Congress had long since adjourned, and there was little need for his political talents on the Hill. And although General Mitchell was clamoring for more battleships to sink—old and antiquated American men-o'-war—the first sensational reaction was subsiding, and his private war with the Navy seemed about to settle down to a dogged struggle in the front lines . . . of the newspapers.

That month, too, the cables carried vivid accounts of the proposed flight of the British dirigible *ZR-2* from England to the United States, to begin late in the summer. This big airship, almost a sister-ship of the famous *R-34,* which twice crossed the Atlantic in 1919, had been purchased by the American Navy and, partly manned by American naval officers and men, was to be flown here. It was, however, considerably larger than the *R-34,* and embodied the latest improvements in dirigible construction. Many of Byrd's

friends had already been detailed to this craft, and were departing for Europe in high spirits. He became restless.

On July 30, Byrd formally petitioned Admiral Moffett, now become his close friend, for permission to undertake "a non-stop flight alone across the Atlantic Ocean from St. John's, Newfoundland, to England," in a JL type of airplane which was then under construction for the Navy. A new machine, it was actually the only type of heavier-than-air craft in this country capable of accomplishing, with any reasonable margin of safety, the dangerous flight across the Atlantic. Even so, what "reasonable margin of safety" might be attributed to it had been stretched, in Byrd's mind, to a daring thinness.

Granting this craft the utmost distance in cruising radius, in still air, its range could not exceed 1,850 miles. Now, the distance from St. John's to Clogher Head, England, was 1,909 miles.

"Hmmm," commented some of his friends dubiously, when he discussed the flight. "What are you going to do when you reach the 1,850-mile mark—paddle?"

Byrd had cautiously anticipated a similar query from Admiral Moffett.

"The prevailing winds during August and September are westerly," his petition went on to say, "and would increase the speed of an airplane traveling east by at least fifteen miles an hour. This also is a conservative estimation. As the wind-speeds at five thousand and six thousand feet are generally from twenty to thirty-five miles per hour, the speed of the wind would increase the radius of the plane 330 miles, which would enable the plane to make 2,180 miles, leaving a margin of safety of 270 miles."

A margin of safety of two hundred and seventy

miles! That is, granting that everything else functioned perfectly; granting that the motor held an unbroken cadence for more than twenty hours; granting that a storm did not disrupt the steady moving tide of winds. These assumptions Byrd mathematically built into his equation. Suppose he should fail? He proposed to equip the little single-seater with air bags. A splendid idea, indeed, if the crash did not rip the fuselage. As for the lane of destroyers and battleships that lay in watchful waiting below the path of the *NC*-planes, to the distress of the taxpayers, Byrd speedily dispensed with their necessity.

"And how long," asked Admiral Moffett, "will it take you to get this ship ready?"

"Twenty days," answered Byrd. "Then I'd be ready to hop off with the first break of good weather in August, which is the best month of the year for flying across the Atlantic."

Admiral Moffett smiled across at this determined young officer. Byrd was thirty-one years of age. Not even eighteen years had elapsed since the Wright brothers first projected an aircraft in flight, and then only for nine seconds. If for no other reason, Byrd's request was historically important as the first seriously contemplated, and scientifically considered solo flight across the Atlantic. It becomes particularly historical in view of the fact that the first crossing in that fashion was not accomplished until six years later, when it was made by Lindbergh, in a plane that was vastly improved in design, possessing a power plant which had, only a short time before, demonstrated that it was capable of sustained operation over a period of fifty-one hours.

"Well, if you're willing to take the chance," was Admiral Moffett's only comment, "I guess I am. I sincerely believe that such a flight is scientifically sound."

Whereupon he forwarded Byrd's petition to the Chief of Naval Operations, warmly seconding it. He even went so far as to emphasize Byrd's qualification for the flight, pointing out that the young man had designed the instruments that proved so important in aerial navigation.

Almost immediately, however, it was snagged. The older brains in the Navy Department were almost unanimously against it. "Legalized suicide"—thus succinctly did they dismiss it. But under Byrd's persuasion, they grudgingly agreed not to oppose it. Nor did Teddy Roosevelt, the new Assistant Secretary of the Navy, show any inclination to applaud the idea. To the contrary, he shook his head.

"Wait a while," he urged. "Wait until better planes are built. It is a fine idea, and some day we shall want to make the flight. But not now. It is too dangerous." He listened to Byrd's argument. Finally he answered: "If you insist, I will let you go, but I hope you won't. We have use for you in the Navy." And Byrd reluctantly agreed.

Byrd, thoroughly disconsolate, returned to Moffett. There was one door open now—one door through which he might escape from the fearful dullness of politics. After all, he was an acknowledged expert in navigation and aerial instruments. He asked for permission to join the American group detailed to the *ZR-2*. To his immense astonishment, Moffett leaped at the idea. Within ten hours after a messenger had handed him his formal instructions, Byrd was on his way to New York, where he caught his boat.

Another brilliant opportunity—but like the flight of the Nancies, it was, he would soon learn, to bring him one of the bitterest experiences, and probably the saddest, in his life.

Arriving in England, Byrd immediately got in touch

with the United States Naval Attaché in London and was informed that the big dirigible would make a prolonged trial flight on the following day, preparatory to its delivery to the United States government. Therefore, the ship would be under command of the British, although the Americans would be aboard in the capacity of observers. The dirigible was housed at Howden, a considerable distance from London.

Byrd then got in touch with Commander Maxwell, commanding officer of the American unit, and asked if he might not be detailed to the trial flight, which permission was granted. He was urged, however, to hurry, because there was a tremendous demand for places, and they were few.

But fate juggled the timetables. Byrd missed the morning train to Howden. Consequently, when he did arrive, he found that the British had removed him from the list and given his place to another. Naturally, Byrd pulled every string he could reach in order to regain his status, and the suggestion finally was made that he replace an enlisted man. That lad, however, seemed so upset that Byrd withdrew.

He remained aboard the big dirigible until the time came to cast off. Early in the morning, with a beautiful sun playing weird colors on its smooth sides, and with the famous British navigator, General Maitland, in charge, the *ZR-2* rose from the field and nosed into the sky, where it was to sojourn for twenty-four hours in an endurance test. Too heartsick and disappointed to await its return, Byrd boarded the next train back to London.

London. His mind drowsily contemplating other things as he walked out of the station, a new, unnerving thought prodded his lassitude. The shouts of the newsboys seemed sinister. People with darkening faces clustered about the newsstands. What could it

mean? Byrd edged into a group. The *ZR-2* had exploded in mid-air, split in twain and, afire, had fallen into the Humber River, near Hull! Most of the crew were believed to have been killed!

The shock riveted Byrd to the spot. One of the greatest disasters, it was, in the history of world aviation. Some of the best British and American aeronautical men were aboard, or had been aboard, the ill-fated craft. Were all killed? All who started out so brightly that morning in this beautiful ship of fabric and steel, so graceful, clean and silvery as she rose out of the lovely English countryside?

Byrd's first thought was assistance. He took the night train to Hull and reached there shortly before dawn. In the gray mist steaming over the flat surface of the Humber River he discerned dimly what was left of the $15,000,000 airship—crumpled spars leaning drunkenly out of the water, bloated sections of fabric, not unlike the carcass of a whale he had seen off the shores of Newfoundland. And on the shore little groups of wretched people, wives, sweethearts and friends of missing men who were aboard her. . . .

Of the forty-nine men who accompanied the *ZR-2* on its last flight, only five survived. One of these was an American. In all, fourteen American aviators, all of them known to Byrd, perished in the disaster. What caused the catastrophe, he learned quickly. A swift turn at high speed, a test requirement, had been too much of a strain for the frame. It crumpled, and the clashing of the steel struts had struck off sparks that ignited the huge cells of hydrogen.

Much saddened, although vaguely conscious of a feeling of thankfulness that he had escaped, Byrd went out to the scene on the first barge. Not all the bodies had been yielded by the wreckage. For several days, therefore, Byrd assisted in the salvage opera-

tions. In order that his family need not worry, he had cabled home that he had escaped. But by such a close margin!

Out of the chaotic mess that had been the trimly wrought central girder section of the *ZR-2,* he saw them drag the swollen body of the enlisted man whose place he might have taken—would have taken, had not the lad protested so much. He shuddered as the body was placed in a canvas jacket.

Byrd remained at Hull until all the bodies were recovered. Never had he been through such days of sorrow. Cables came to him from the families of dead shipmates, horrible things to attempt to answer easily. These poor people had bravely shut their hearts to the correctness of the newspaper reports. Would not he make a personal check through the hospital? Perhaps so-and-so had really survived. Byrd knew better. He could only reply: "So-and-so is dead. He died at his post, a gallant man."

Then came England's funeral to the dead. An impressive, awesome event. Traffic was virtually stilled in the great city of London that day: only the rattle of the caissons, moving to Westminster Abbey with their lifeless cargoes, rose above the restless shuffle of feet of the thousands who stood in wait for the cortège. Byrd marched alongside the bodies of the American unit, the last in the long line.

A few days later he returned to the United States on the battleship *Olympia,* aboard which was, curious thought, the body of the Unknown Soldier. He went at once to Washington, the horror of the experience still in his heart, and now freighted with the new realization that Washington and the dull bickerings of the Hill no longer appealed to him. Which way to turn now? He must lift himself above lassitude!

There was little from which he might draw encour-

agement in Washington. One of the first things he learned was that he would be demoted from Lieutenant-Commander to Lieutenant, in line with the policy of canceling all war promotions. What made this particularly painful was the fact that the members of his class would soon be due for a permanent promotion to this rank whereas he, being on the retired list, was automatically ineligible for further promotion save by special act of Congress. an extremely rare action in naval history.

His father met him in Washington and spoke in determined tones against the career he had chosen.

"Give up flying, Dick," he urged. "You have too much talent to risk in this dangerous business. In addition to jeopardizing your life, you are in danger of stagnating your intellect in the sort of work you are doing now."

"I'm sorry," the son answered, "but I like it."

Richard Byrd, Senior, shook his head. Then he warmly reached for the hand of his son. "You probably know what is best. I shall always believe that you are wrong."

Still, Byrd was himself filled with doubt. While pride tended to hold him fast to the service he had served so long, an inner urging pleaded that he was stultified, that his spirit was mummified in great bands of red tape. The idea came to him that, if he quit the Navy and entered business he might be able to amass in a comparatively short time enough money to undertake the expeditions he desired. He knew Thomas Fortune Ryan, the famous copper king, and decided to work for him.

So he formally asked to be transferred from the active list after much conflict within himself. The request came back unnoted. Attached to it, however, was a firm statement that his services would be urgently

required in "special work" on the Hill. Would he not, therefore, defer his request until then? Byrd sat down and answered in the affirmative. This he did with the sense of having partially burned his bridges behind him.

At any rate, there *was* much political work for the naval officer and Byrd found the familiar scene at Washington far more hectic, involved and crazy than the year before. Not only was General Mitchell still rampant, still trying to sink the Admirals and their precious battleships: the Navy itself faced serious demoralization of its personnel because of the proposed reduction of pay in all branches of the service. The Republican Administration was then in power, and the taxpayers of the nation, just beginning to realize how much it had cost to win the War, were clamoring for the use of the pruning knife on the contemplated budget.

As has always been the case in peace time, the pleasant-minded budget-makers decided to reduce the salaries of all service men. It was hardly a fair thing to do, really, as Byrd and his shipmates realized. What with the cost of living mounting and the purchasing power of the dollar retreating, it was proposed to move military salaries back to the 1908 rate. Naturally, the news brought a fearful protest from officers and men, some fifty thousand of whom were affected.

All the branches of the service and the government thus facing retrenchment—the Navy, Coast Geodetic Service, the Marine Corps, Public Health, Coast Guard—concurred in the nomination (unofficial, of course, because naval officers are not supposed to engage in such activities) in the nomination of Byrd to handle the opposition to the bill. It was a most extraordinary tribute to his ability as a master of legislation, for he was essentially an aviator. Still, his suc-

cess before the last Congress had won him considerable fame, and most of the higher-ups in the various departments thought he was the man to work upon the sensibilities of the legislators, to make them see the folly of this penny-wise policy. Naturally, it was a fight that found favor with the service, for the hearts of all officers and men, as in every business, lay quite close to their pocket books. This particular task, Byrd discovered, lacked much of the unpleasantness associated with his Bureau of Aeronautics bill.

But it was hard to get excited about it: hard to find intellectual novelty in the organization of his educational campaign, in the creation of vast statistical tables for presentation to Congress, when the mind was prone to engage itself with more thrilling occupations. None the less, because he was a naval officer, he buckled down, hoping, as do all good optimists, that virtue would capture its own reward . . . even in the Navy Department.

Late one night in January, unusually tired after a long day at the Navy Building, and unusually weighed down with discouragement, he was driving out to the Chevy Chase Club, wishing for some adventure with which to relieve the endless day of figures and facts and details which pursued him to his bedside, threatening to bring a nervous breakdown. It was a cold, blustering night, snowing, and he buttoned his overcoat about him. Halfway out of the city he was suddenly forced to bring the car to a stop when a figure dashed in his path. A badge flashed brightly in the glare of the headlights. It was a policeman.

"Drive like hell for the Knickerbocker Theater," the policeman shouted, hoarsely. "The whole damned thing's fallen in . . . everybody's killed. . . ." Breathless, he subsided in the seat. Byrd wheeled the car about and headed back through the storm at top

speed. The same awful sense of tragedy so poignantly experienced the day he stood in the railroad station at London staring at the headlines that told the tragic story of the *ZR-2* surged upon him. He knew that many of his friends were at the theater that night. Were more to die?

When Byrd reached the scene, a single glance proved that the officer had hardly exaggerated. The roof of the giant theater had caved in and the wreckage presented a frightful chaos. Citizens were plunging to the scene from all points. From the tangle crawled human figures, bent with pain. And dreadful cries and moans came from hidden places beneath the timber. Rescuers rushed hither and yon, the immensity of the disaster so great that they hardly knew which way to turn.

Byrd and the officer walked through the crowd and plunged into the remnants of the structure, great portions of which were balanced dangerously and shivered with every footfall. In a moment the two separated: it would be more effective to work alone.

Byrd can be extraordinarily cool in a crisis, and those who saw him during the four hours he carried on in the liberation of the scores still trapped in the wreckage, related in an official letter to the Navy Department subsequently that "his performance was an inspiration to the others and an ideal example of the self-sacrificing service for which the uniform he wore stands. His entire conduct the night of this disaster was characterized by extraordinary heroism and superb leadership."

He found two women cowering under slanting timbers and these he gently led to the ambulances. A fainting man lay under a great wedge of timbers, his hands fluttering in ghastly white arcs. Byrd pulled him free, although jagged bits of the roof fell con-

tinuously as the shattered supports swayed under the movements of the rescuers. Within half an hour he liberated no less than seven people, moved out a dozen bodies, crushed and mangled.

Then, from the deepest tangle of the wreckage he heard a faint call for help. The victim was unseen, buried under a great mass of timbers and plaster that had cascaded from the roof and now lay in a delicately balanced pyramid rising from the concrete floor to the jagged rim of the balcony. The pyramid threatened to flatten out at any moment. The slightest jar might destroy the equilibrium, bring the whole mass upon the heads of victims and rescuer.

Byrd barely hesitated. A Lieutenant in the Marine Corps crunched through the plaster. "Help me clear up this mess . . . there's some one in this wreckage," Byrd yelled. Then he dropped to his knees and wriggled into a dark passageway, a knee-high and tortuous arch made by the timbers in falling, and disappeared. The Marine officer stood by, amazed at the man's audacity, momentarily expecting Byrd's wriggling shoulders to send the whole structure down in a screaming avalanche.

Ten minutes later . . . it may have been longer, it may have been shorter . . . Byrd's voice came calmly out of the darkness: "A man and a woman in here. Get me some jacks."

Meanwhile other rescuers arrived. Jacks were secured and passed in to Byrd. With all the strength in his shoulders (those athletic days of his youth stood him in good stead), he labored, flat on his stomach, lifting great loads with his shoulders while he made a place for his jacks, in order to prevent the tons of steel and timber from falling upon the couple. It was fatiguing work, exhausting work, but exciting. He worked on, only dimly conscious of the passing of time,

halting only long enough to shout a word of encouragement to the imprisoned pair, who, he learned, were Captain Hills of the United States Army and his wife.

Four hours later he carried out the weakened victims. Although it was cold he was drenched in sweat. His new uniform was torn and dirty and his black hair was white with plaster dust. Weak as he himself was he smilingly rejected medical assistance. He remained on the scene until dawn, helping where he could, and then motored home, where he bathed, changed his clothes and returned at once for duty at the Naval Department.

Those four hours of agony he spent under the cramped arch he did not mention to his colleagues. But the story of what he had done, in fragments at first, sifted through officialdom. Three months later the Marine Corps Lieutenant, J. T. Boone, and another Marine Corps officer, Lieutenant-Commander Richard W. Warner, who had observed the incident, reported his act in detail. "His coolness, judgment and ability to group bystanders into actual working parties," Commander Warner declared, "resulted in an early liberation for many wounded and the recovery from the ruins of the dead." He was forthwith cited for extraordinary heroism.

But meanwhile other citations, even more belated—from high British officials for his work at Halifax, and in handling the rescue operations in connection with the *ZR-2*—had been made part of his record, which was rapidly becoming one of the most distinguished made by the younger officers in the Navy. He had little time to dawdle over their importance. The fight over the Service Pay Bill was raging on the Hill; the Navy was bitterly embroiled in a conjunctive battle to increase its strength, and Byrd, almost

single-handed, bore the brunt of both legislative engagements.

It is rather difficult to recreate in Byrd, to-day's adventurer, the diplomat and politician of yesterday. The twist in his brain that now sends him to far-off fields then must turn to the less exciting, if more resisting fields in Congress. Yet it was undeniably as exhausting a type of work as he ever undertook. Night and day; wrangling, pleading, cajoling, persuading . . . it was always the same unchanging struggle for the sake of the terminology of a few precious bills.

In recognition of the breadth of his task, the Navy Department virtually endowed him with full powers as liaison officer. One of the House leaders, a friend, installed him in an office right under the room in the House where the fate of the various bills in which he was involved would be decided. Here he could maintain close touch with the situation, watch the Navy's opponents and stand ready to give "vital facts" to the Congressmen who needed such ammunition when the enemy's fearful barrage became too heavy. Only one who is versed in the inner workings of Congress can truly appreciate the task that Byrd consummated.

An opponent to the bill often, and without warning, would suggest an amendment that changed its meaning. Being a shrewd politician, he would first of all make sure that enough of his supporters were on hand to insure its passage. A flash of warning to Byrd. Then hot work on the telephone, and Byrd stood by with an impressive assemblage of facts and figures for the "answering speeches" of friendly Congressmen who had no desire to see the Navy destroyed. Before that session closed Byrd had become so thoroughly fraternal with some forty Senators and nearly a hundred Representatives that he called them by their first names. Now the days were the post-war

days on the Hill. After the great expenditures of the war, then came a fanatical desire for economy; and the pruning knives just hovered—because it was such a mighty item on the budget—over the Navy, which some would abolish altogether.

The session dragged on and Byrd fagged it night and day. He must always remain obscure in view of the delicate nature of his duties, for the Navy, obviously, could not be presumed to defend itself in Congress. His status, moreover, being unofficial, was confusing to certain of his friends who were not aware of the facts. There was some suspicion that he was utilizing his uniform to achieve his own ends. One young naval officer grew quite hot under the collar.

"You're only a politician," he told Byrd, in front of a group of friends.

Byrd's face paled. In his heart, he instantly wondered whether or not the man was right. But the insult was damning.

"If you step outside this office," he challenged, "I'll answer for your characterization."

Cooler heads prevented a battle, for both were white hot. And Byrd went on with his "liaison" work, suffering within himself for his thwarted hopes. Mitchell was still pumping hot-shot into the Navy at every opportunity. That diversion tended to make his task harder. Time and time again, just when victory seemed assured, the lines of defense he had built so well would break, and the Dutch lad who plugged the dike worked no more exhaustingly than Byrd, in reenforcing his Congressional warriors.

In the end, he won. The bills for which he acted as godfather by proxy passed both Houses and became laws. The Navy generally and aviation gained strength from the solidified foundations built in Congress under Byrd's ministrations. There was, of

course, much satisfaction in having won, but he gladly escaped from Washington's political stage. He saw a new opportunity, and embraced it.

For a long time, Byrd had been turning over in his mind the idea of building up a second line of national defense through the organization of war-time naval flyers. When the Armistice was signed, some three thousand of these were in the service. With the exception of a few hundred, most of these had drifted back to desk jobs, to the cities and towns, quitting aviation entirely. Now it had cost the country something like five thousand dollars to train each of these flyers, and to Byrd it seemed sheer wastefulness to permit such expenditures to lie fallow. Why not, he suggested, organize a reserve of these flyers, provide them with planes and let them fly enough each year to keep them in practice? Not only would it provide the country with a highly trained flying personnel in the event of an emergency, he pointed out, but also with a competent nucleus from which to develop a more efficient unit.

The idea was popular from the first except for one detail. The Republican Administration was chanting economy, and none of the more highly placed naval officers was optimistic enough to anticipate an appropriation for this experiment. Besides, most of the statesmen in the world were thinking in terms of disarmament, and the leaders in this country, holding the olive branch highest of all, were not amenable to suggestions of more military expenses than were necessary.

"Very well," Byrd retorted, "we'll do it without money."

He went to Boston, reporting to Rear Admiral Louis R. de Steiger, Commandant of the First Naval District, and outlined his plans. The Admiral lis-

tened with rare understanding. "You've got a real job on your hands, Byrd," he said, "and I'll try to help you all I can."

He had no money for speed boats, so necessary in naval aviation work; no money for doctors, for building runways or buildings. He must, forsooth, build and operate an expensive aerial station out of thin air. Wisely he got in touch with all the former naval aviators in the New England States, and finally induced some eighty of them to attend a conference in Boston, where he broached his plans. He laid the cards on the table—told them of the Navy's poverty—asked them whether they were willing to make the idea a fact. They agreed enthusiastically, and petitioned Washington to authorize the formation of the first reserve unit at Squantum.

The request was granted, and the Navy Department assisted as best it could, which was by the loan of four enlisted men, a couple of old seaplanes and two officers with which to run the station, in addition to the use of an ancient hangar and a rotting platform at Squantum, then a destroyer station. Byrd and his reserves did the rest—borrowed lumber and repaired the station, gathered everything of usefulness from junkpiles in the neighborhood. Admiral de Steiger lent his launch in lieu of a speedboat; a pharmacist in the reserve volunteered his services as a doctor in case of accident and by September 1, at no cost to the Government, Byrd had his unit ready for the first flight.

From that time on, he trained thirteen new pilots, young men carefully culled from a list of college graduates he had selected, in addition to modernizing the value of more than thirty oldtime flyers who hadn't been in a plane since the War. In other words, he had accomplished something like a hundred thousand

dollars' worth of results for practically nothing. The Navy Department was properly appreciative. With only three hundred and eight regular aviators and less than eighty reserve flyers available for active service, it was quick to recognize the merits of Byrd's organizing genius. When his work at Squantum was finished, Byrd was immediately ordered to Chicago, to organize a reserve flying unit at the Great Lakes Training Station.

This was a much more difficult task, inasmuch as he was called upon to assemble the reserves in thirteen States. He fell back upon the same methods he had utilized so successfully in New England—canvassed the old naval flyers and finally stirred up enough enthusiasm to form five aviation divisions, one in each of the following cities: Indianapolis, Cleveland, Detroit, Minneapolis and Chicago. When he was ordered back to Washington, to urge upon Washington the necessity of appropriations with which to operate these stations, his personnel was on its way to encampment.

The Senate Naval Committee closely questioned him on the results of his work. Then, without much ado, it conceded the money. Out of that system wrought by Byrd, at the cost of such effort and so much sweat, grew the strong naval reserve air force in the country to-day, and from it the Navy Department draws much new blood with which to revitalize and strengthen the ever-changing ranks in the regular service.

Byrd also got back in time to see the finale of the Mitchell affair, which by then had been lifted, by pressure of public opinion, from the status of a war between the Navy Department and the Army officer to a national issue. A most distinguished committee of civilians, and Army and Navy officers, headed by Dwight W. Morrow, had been constituted to sift his

charges, and to determine the best means of "developing and applying aircraft to National Defense." By that time, even most of the Army was against its General. Found guilty of insubordination, he was suspended from the Army, and his dream of a unified air force landed in the ashcan, although there was unquestionably much merit in it.

Byrd was one of the naval officers who testified in the final accounting: his testimony, which can be found in the Congressional Record, is a remarkably clear and novel analysis of the merits of the airplane in modern warfare, and a flat repudiation of Mitchell's contention that it is all-powerful:

"For forty centuries—ever since the world has known towns and ships—there have been two objectives in warfare: towns and ships. This great division of the armed forces of nations is natural, since cities are usually attacked and defended by armies, and ships are attacked by seacraft.

"Cities and ships can now be approached through the air, but the air does not and cannot provide a third objective. Therefore, no reason exists for a third division of the armed forces of the country. A city can be bombed, but cannot be taken by aircraft. The army must be there to take it. Ships can be bombed, but the ships and their personnel cannot be taken prisoner by aircraft. The Navy must do that.

"There is nothing in the air to attack unless it is put there—then it is only temporarily there. . . . Until there is a third objective no reason for a third military department exists. . . . Experience has shown beyond peradventure that if the Navy is to reach its maximum war efficiency, it must entirely control its air arm in peace as in War."

No one opposed Mitchell more strenuously than did Byrd. It was he who indirectly bore the brunt of

the General's verbal hammering, which was always prodigious. Yet he never harbored any bitterness toward him, and even during their hottest encounters, when nerves were taut and brains were heated, they always spoke pleasantly when they met. "Probably because he may have felt," Byrd recorded somewhat naïvely, "my opposition did not amount to much."

Yet a year or so later, after Byrd had been made world famous by his flight to the Pole and his name had been suggested as President of the National Aeronautical Association, Mitchell, bitterly attacked him: "Richard Byrd is a very good man, but he is just a representative of the vested interests of the Navy Department which is doing all it can to keep aviation down. This is another attempt on the part of the Navy to keep control of aviation and to retard its developments so as to be able to continue building battleships."

Mitchell, then just plain Colonel, somehow spoiled the effect by admitting that he would accept the honor, himself. And there was no secret about what *he* would do to the battleships.

CHAPTER VI

ETAH—AND DISAPPOINTMENT

TOWARD the end of 1923, the nation was electrified by the news that the new Navy dirigible, the *Shenandoah,* would be flown to Point Barrow, Alaska, some time in the spring, to attempt a non-stop flight across the Pole to Spitzbergen, more than two thousand miles distant, in search of the "Lost Continent." It was the Navy's idea, and a daring one at the time. Secretary of the Navy Wilbur had suggested the flight to President Coolidge, and he approved it at once, for it was a splendid opportunity to enhance the prestige of the flying arm of the Navy, not to mention American aviation, which was then decidedly in a tail-spin.

The *Shenandoah* was an American-built military rigid airship, the product of American engineers and American laboratories. It was the first craft of its type built in this country, and its performance had shown that American engineering ingenuity had achieved striking success in a field that many believed belonged exclusively to the Zeppelins. Only a few months before it had made a spectacular round trip flight from Lakehurst, N. J., to Seattle, and Navy officials contended that it had proved it was more than staunch enough to weather the strongest polar gales.

More, for the past fourteen years, the idea of using the airplane or airship for polar exploration had been in the air; and the young bloods of the Navy Depart-

ment, partly to relieve the ennui of peace time, for the previous three years had been pushing an aggressive subsurface campaign for official permission to attempt the Arctic flight. Here was a vast lobe of unexplored territory between Alaska and Siberia, south of the Pole, which for centuries, with the exception of a few thin lines carved out by the more successful explorers, had remained "white spaces" on the map. Would it not yield its secrets readily enough to the airplane, with its terrific speed and greater flexibility, and continue to defy the ice breaker, the dog team and the plodding explorer who trusted to feet?

Peary believed it. Fourteen years before, upon the occasion of the founding of the Aerial League of America, of which he became President, he said, "There is a new art in the world to-day—the art of flying; a new world to conquer—the world of atmosphere; a new ocean to navigate and utilize—the ocean of air, whose only coasts are infinite spheres." And in 1916, when that belief had crystallized, he formed a committee, made up of himself, Amundsen and Captain Robert A. Bartlett, to undertake polar exploration by aircraft. Then he prophesied significantly enough:

"In the very near future, the bitter air above both poles will be stirred by whirring airplane propellers, and when that time comes the inner polar regions will quickly yield their secrets."

Amundsen believed it. As early as 1914, when the art of flying was altogether a hazardous thing, he had taken lessons and qualified as a pilot, the first explorer to achieve the honor. Indeed, in 1916, he and Captain Bartlett had been promised an American plane with which to undertake the first aerial exploration of the polar seas, when the war came and forced him to

abandon his plans. But six years later he revived them.

At the time of the proposed flight of the *Shenandoah,* most airmen had more faith in the lighter-than-air vessel, as an instrument of polar exploration, than the airplane. It was readily understood that landing places were few and far between within the Arctic circle. That alone placed the heavier-than-air machine at a disadvantage. More, the airship, with its obviously greater cruising range, seemed more capable and reliable.

It had demonstrated its abilities during long bombing flights during the war. The British dirigible, the *R-34,* had succeeded in crossing the Atlantic in 1919, in spite of terrific headwinds, and then returned home. Even the disaster of the *ZR-2* had not undermined confidence in this vehicle, nor had the disappearance of the former German Zeppelin, the French *Dixmude,* with loss of all the crew, that December, on an attempted endurance flight over the Mediterranean. Great things were expected of the *Shenandoah,* and every naval flying officer yearned for the assignment to make the flight.

Consequently, on January 1, 1924, when he received orders to report at once to Admiral Moffett, to assist in the preliminary preparations for the venture, Byrd was more than elated. He had become bored with his missionary work. He was beginning to feel stultified; his active brain was filling with cobwebs, and he wanted action. Now he plunged into work with all the zest that is in him, as a liaison officer between Admiral Moffett and a committee of distinguished scientists that had been formed to lay out a scientific and explorational program for the Navy. There was much ballyhoo in the press; and much doubt in the editorial columns.

Then, toward the end of January, a wintry gale blurted over the Atlantic seaboard and tore the *Shenandoah* from its mooring-mast at Lakehurst, and drove it out to sea with only a skeleton crew aboard. The shock bashed in its great nose and deflated two gas chambers. Thus disabled, the craft fought the gale for seven hours during the night and with diminishing winds at dawn, after a most plucky fight, managed to get back to its base.

Although the *Shenandoah* had more than proved the stoutness of its heart, the public lost faith. What would happen, asked the newspapers, if the dirigible met twenty hours of such storms? President Coolidge suddenly canceled the flight. And once more Byrd found himself empty-handed. But his brain raced with new, mysterious ideas. If the public was afraid to let the Navy undertake the whole polar project in one step with a dirigible, perhaps it would not be averse to a preliminary, or scouting, expedition with airplanes?

He had been watching the indefatigable Amundsen for a long time. The Norwegian had obviously jettisoned all ideas of attempting to plunge into the polar seas by Peary's methods. In the face of crushing setbacks, he was struggling to reach the Pole by means of the airplane; and lesser-minded men, with less faith than Amundsen possessed, might have forever renounced the airplane. In 1922, accompanied by a Norwegian pilot, Oskar Omdahl, Amundsen had taken a Junkers metal monoplane, of proved performance, to Northern Alaska, planning to base at Point Barrow and from that point fly non-stop to Spitzbergen. All winter long they were compelled to hold up the start because of terrific storms; and then, when spring came, the plane was so badly damaged on its first flight that the attempt must be forthright abandoned.

His determination undaunted, Amundsen returned to

Norway and there built up another expedition, to be started in the fall of 1923. This time he planned to strike out from King's Bay, Spitzbergen, and he chose two Dornier Wal flying boats because, he believed, they would be far safer in the event of a forced landing in the polar seas. The planes were ordered, and pilots engaged, but mishap dogged him. On the eve of his departure from Norway for King's Bay, there to await the arrival of the planes which were to be flown from Pisa, Italy, he learned that his funds had been exhausted. There was no alternative; he turned back.

"All seemed dark," he wrote of the moment's emotion, "and I, as well as my comrades, had many proofs that people considered our plans a bluff and that we did not mean it seriously when we spoke of exploring the North Pole basin with flying machines."

But Byrd did not believe that the stalwart Amundsen was bluffing. Down in his heart burned the fierce conviction that the next two or three years would see either an airplane or a dirigible spin over the Arctic seas, perhaps to disclose magnificent hidden secrets, perhaps even the unknown continent; and the idea became an obsession with him. He decided that he would undertake it himself, and, the better to equip himself, he undertook a most comprehensive study of all Arctic explorations. The more he studied, the more intense became his conviction. The logical means of opening up polar obscurities was by means of the airplane. For centuries men had struggled with the same primitive means, only to be thrust back by the bitter cold, scurvy, the indescribable dangers of ice travel. Physically, spiritually, the airplane transcended all known modes of explorational conveyance.

He broached the idea to his comrades and to his superiors. Some were sympathetic: a few believed his

idea, but the great body of them laughed at him. "Look at what has happened to Amundsen!" they warned him. "It is a foolish undertaking. You are more likely to break your neck." It was impressed upon him that the Navy Department, then in the throes of budgeting, could hardly be expected to appropriate a large sum of money for this madcap idea.

Whereupon, for the first time in his life, Byrd weighed the possibility of public support. Beyond his boyhood friends, who were not altogether wealthy, and those he had made through the service, he had few upon whom he could call with any degree of assurance. Outside the service, he was comparatively unknown. But there was a chance. He let it revolve in his mind, while he attended to his routine duties.

In June, 1924, an unexpected honor almost magically smoothed out his difficulties. By special act of Congress, he was made a Lieutenant-Commander, on the retired list, in recognition of his record. It was one of the few cases on record in which a military officer was thus promoted by Congressional action. Congressman Vinson, of Georgia, backed the bill in the House, and it was unanimously approved by the Committee on Naval Affairs. The report of that Committee is a very interesting document.

"The Committee considers that Lieutenant Byrd deserves this promotion," it stated, "due to the fact that in spite of his retirement, his active duty has been practically continuous, and in the past few years he has remained on active duty against his personal wishes because he has been requested to do so by the Navy Department." It called attention to the twenty-two detailed reports of his fitness and his seventeen citations for service performed over and above the call to duty, and went on:

"High officials of the Navy are almost unanimous

in giving him the highest mark that can be made of 'superior, or above the great majority of officers' in all attributes on which an officer is reported, such as conduct, courtesy, devotion to duty, education, force, industry, leadership, initiative, judgment, justice, patience, physical energy and endurance, reliability, self-control, subordination, and discipline and loyalty of subordinates.

"His last seven years of service have been in aviation, as an aviator. This officer's record shows that his service has been invaluable to aviation and to the naval service generally, and the passage of this act, is, therefore, recommended."

In the debate in the House that followed the introduction of the bill, Representative Vinson cited Byrd's accomplishments and described the bill as "for one of the most meritorious officers in the Navy.

"He has several times requested that he be released from active duty so that he could take a position in civil life," he added, "but he was requested to remain on active duty for the good of the service and for public interests. This he did at a considerable personal sacrifice. He is one of the most efficient men in the aviation branch of the service."

Aside from the pride it gave him—for Byrd is, above all, a Navy man—the promotion gave him the needed prestige. He let it be known that he was preparing an aerial expedition to the Pole. To be true, what steps he took were largely propaganda; he had neither money nor machines. But he drummed into the ears of all who would listen the idea of the flight, its explorational importance and its scientific imperativeness, and people generally paused to listen.

Now, too, the imperturbable Amundsen was back on the stage, his dour eyes sparkling with plans for a new expedition, the mightiest expedition of all. He

came to America for funds and asked the Navy Department to lend him a pilot. He was, incidentally, here for more funds and the request for the American pilot was a good psychological request. One of the first to volunteer was Byrd.

"Are you married?" Byrd was asked. He naturally answered in the affirmative.

"Sorry. Only single men need apply," was the retort.

More as a matter of interest than significance, the post did go to a bachelor; and he immediately celebrated the appointment by getting married. Perhaps it was just as well; his leave was canceled when Amundsen, shortly afterward, abandoned his idea of starting that year.

Then, after all these disappointments, Byrd's tide began to turn; his propaganda bore rich fruit. Captain Bob Bartlett, Peary's great aide and himself one of the best authorities on the Arctic, happened to hear of the naval officer's plans, came to him and casually suggested they combine expeditions. The old explorer was more than eager to undertake an aerial expedition into the Arctic, after the many years of harrowing struggle he had spent in ice-bound schooners; and Byrd, on the other hand, was keenly appreciative of the value of Captain Bartlett to his own expedition.

Much emboldened, he drew his plans. They would base at Etah, on the northwest corner of Greenland, and there strike out for the Pole by means of intermediate bases. It was on the rim of the Arctic Circle and, Byrd was convinced, the nearest known point to the Pole from which airplanes could be successfully operated. They would obtain planes from the Navy. Captain Bartlett knew where to get a transport ship.

"And now," suggested Captain Bartlett, an old

hand at this business of exploration, "we must get funds." There was a pause.

"Yes," answered Byrd, his brain working fast. "I know where I can get some."

"And I know," interrupted Bartlett, "where I can get $10,000. Let's get busy."

Byrd barely waited to get his hat before he dashed for a train to Detroit. Out there, he knew, was a man named Edsel Ford, a keen, progressive sort of a fellow, who was much interested in aircraft. Moreover, he was very wealthy. That summarizes what Byrd knew about him. The automobile manufacturer's secretary greeted him pleasantly enough, albeit dubious over the possibility of an immediate appointment.

"And what is your business?" he asked.

"Tell Mr. Ford," Byrd answered abruptly, "that I should like to discuss a North Pole flight with him."

A moment later he was ushered into a magnificent office and found a slender young man, about his own age, facing him. And the two of them talked, became friends, and twenty minutes later Byrd emerged with the promise of fifteen thousand dollars when he needed it. And a few days later, he strode out of the junior Rockefeller's office in New York with the same promised sum. Such is the determination of Byrd when aroused—the determined man in the boy that had led his father to prophesy, years before, that "Dick is going to get what he wants."

With much éclat, he went to Secretary Wilbur. Could he not borrow two of the Navy's new Loening flying boats—there were only three, as a matter of fact—for this expedition? Obviously, much credit, and no expense, would redound to the Navy. Secretary Wilbur listened with pursed lips, promised nothing and said "Wait." He went to President Coolidge, told him of Byrd's record, pointed out the advantages

of the exploration and urged that the permission be given.

He spread a large map on the President's table.

"You can see there is a lot of white space on the map," he said. "Don't you think we ought to let Byrd go?"

"Why not?" Coolidge answered.

That was all.

About that time Byrd was compelled drastically to recast his plans. Donald B. MacMillan, who had achieved some fame in his explorations around Ellesmere Island, informed the Navy Department that he would lead an expedition, under the auspices of the National Geographic Society, and asked for the loan of an amphibian. He had in mind using the airplane for a bit of exploration south of Melville Bay. News of the request gravitated to Byrd and, because he thought it was the sporting thing to do, he sought out MacMillan and told him of his own project, which was much broader in plan. Moreover, he told the explorer that there were only three such amphibians available, that he had been promised two of them, and that it would be foolhardy to attempt the job with only one. Airplanes, he pointed out, were not altogether perfect: if that one cracked up, and the limited use of aircraft in the Arctic demonstrated that the chance was very great, he would be hopelessly handicapped.

From that incident, which Byrd initiated out of the sporting instinct of his heart, was to grow the most involved expedition he was ever to undertake. Without warning him, MacMillan immediately went to the Navy Department and submitted a new proposal. He changed his request for one plane to two. The Navy Department was in a quandary; it did not care to offend MacMillan or the illustrious society sponsoring him, nor did it desire to rule against Byrd, its own

officer, who, by priority of request, was entitled to whatever advantage there was in the situation. Quite obviously, compromise was the only solution. The Navy suggested that they merge expeditions.

Still, this did not lead directly to satisfaction. Byrd gracefully submitted to MacMillan's demand for seniority, with the understanding that he would be second in command. A short time later this place was taken by E. F. McDonald, a millionaire business man, who was cooperating with MacMillan. This turn of affairs might well have galled a less controlled personality, but Byrd accepted the situation because, more than anything else, he wanted the opportunity to make his experiment, whatever the sacrifice.

The expedition, then in the paper stage, ultimately resolved itself into an expedition within an expedition. It was accepted that MacMillan should be in control of the expedition as a whole; but the peculiar phraseology of Byrd's designation placed him in authority of the Naval Flying Unit, consisting of six men, assigned to the project; and, although he must "cooperate" with the explorer, he none the less preserved an almost untrammeled jurisdiction over his own group. That section of Secretary Wilbur's instructions, dated May 20, 1925, directed him to "accompany and cooperate with the 1925 Polar Expedition of Mr. Donald B. MacMillan.

"You are carrying out the mission of the Naval Flying Unit in accordance with such instructions as you may receive from time to time from the Secretary of the Navy; you will be responsible for the flight operations of this unit. In the absence of any instructions covering any specific situation you will be guided by your own judgment.

"The Department desires that you cooperate with the expedition to the fullest extent to further its mis-

sion; which mission in relation to the Naval effort is defined to be: to investigate and explore any unexplored territory lying between the North Pole and Point Barrow and Axel Heiberg Land, and any other unexplored territory which in your judgment may appear to be advisable to investigate. Such other cooperation, not interfering with the accomplishments of this mission, as may be desirable in the interests of science, or in an emergency, shall, in your discretion, be rendered."

These were obviously carefully conceived instructions. They were tantamount to giving Byrd *carte blanche* in the direction of the naval end of the enterprise. And more importantly, although the public was led to believe that this was simply an investigatory, or preliminary, expedition in and about Greenland, the door had been deliberately opened for the "dash to the Pole" he had dreamed so long. "Unexplored territories lying between the Pole . . ." The phrase was a tonic to him. His earlier disappointments were forgotten, and he got his machines ready.

It was then April. From the November of the preceding year, Amundsen had been making splendid progress with his contemplated flight. He had been advanced eighty-five thousand dollars by the late James W. Ellsworth of New York, and with this purchased the two Dornier Wals that had been ordered for the previous expedition. He shared the command with his backer's son, Lincoln Ellsworth, and therewith formed an association that was to bring each imperishable fame. The planes they named the *N-25* and *N-24,* powerful brutes, equipped with two husky motors and a range of approximately eighteen hundred miles, little enough safety margin for a sixteen-hundred-mile flight to the Pole.

Much though he would have liked to compete with the Norwegian, Byrd found himself hopelessly out-

distanced. Long before the MacMillan expedition was ready to start from Boston, Amundsen's two planes—with him in command of the *N-25*, piloted by Hjalmar Riiser-Larsen, and Ellsworth in command of the *N-24*, piloted by Leif Dietrichson—hopped from King's Bay on an attempted non-stop flight to the Pole. The day was May 21.

Would Amundsen find the Pole and crush his ambition? The next day came and went; Amundsen did not return. A week passed. Had the Arctic claimed six more men? Whatever had happened to the two planes in the vast silences of the Arctic basin, the world maintained the conviction that the resourceful Amundsen was still alive. Perhaps both planes had been driven down by storm and wrecked; and the men were struggling to return on foot. But all organizations of search paused at the vast barrier of unknown territory enfolded within the Arctic Circle; to attempt to find them in that million square miles of ice, and mist, and snow seemed impossible.

The world turned to Byrd and MacMillan. There was a possibility that Amundsen, if down and still alive, and if his planes were wrecked, would try to reach Cape Columbia, on the north coast of Grant Land, and thus backtrack Peary's route to the Pole. Such a route, it was pointed out, was only 413 miles (assuming Amundsen was at the Pole). The danger, however, lay in the fact that Amundsen and his men carried food for only thirty days; the ice was beginning to melt and history had shown, in the experience of a hundred expeditions, that it was impossible for men to make their way across the polar sea later than May.

With public concern over Amundsen's plight daily becoming more grave, Byrd suggested that the expedition be turned into a rescue mission. Operating in pairs, in the interests of mutual safety, the planes could

be flown from Etah to Cape Columbia, a matter of two hours, base there and then begin a search over the route Amundsen would theoretically follow. MacMillan at once accepted the idea. On June 17, MacMillan's two schooners, the *Peary* and the *Bowdoin,* with the Naval Unit under Byrd aboard the former, sailed from the Navy Yard at Charlestown, Mass., after a great demonstration, and headed for Wiscasset, Me.

In the naval group were two pilots, Lieutenants M. A. Schur and E. R. Reber, the former dignified as the engineer officer of the flight; three chief machinist mates, Nold and Sorenson and Rocheville, and an aviation mechanic named Floyd Bennett. The latter was the man who was to become, through his association with Byrd, one of the most famous flyers in the world. Then he was obscure, not at all known in the service. When Byrd was first casting about for men, Bennett's name was suggested by a friend; he was then attached to the cruiser *Richmond,* operating in the Pacific, and had been recognized, although only an enlisted man, as a sane, careful pilot. Upon the Navy Department's recommendation, Byrd sent for him, and one day Bennett appeared, a tall, gangling, diffident fellow. Byrd liked him at once.

"Hello, there," Byrd greeted him. "Do you want to go to the Arctic with me?"

"You bet I do," Bennett answered instantly. There were no empty words; no question of dangers, or responsibilities, or gain. And out of that spontaneous agreement was to grow, even before this expedition itself was to end, one of the most firm, sincere and delightful friendships I have ever seen; a friendship that outlived a thousand complications and endured until Bennett's tragic death.

Etah, as has been said, was the immediate goal; but Etah was only a base. In Byrd's heart was the hope

that it might be the gateway to the undiscovered continent of the North; for that huge expanse of Polar sea between Alaska and Axel Heiberg Land, half a million square miles south of the Pole, was a provocative enigma to cartographers. Here explorers had twice reported land in the distance; many firmly believed that, if a continent did exist in the polar basin, it would be here, despite the failure of the Crocker Land Expedition, ten years before, to find it. Somewhere beyond the myriads of mountain tops he knew barred the route to the North, Byrd hoped to find the secret pathway to the vague land Peary had seen in ghostly outline in the mist.

The actual program of flight, naturally, was nebulous, inasmuch as local conditions would fix the efficiency of the planes. But Byrd was confident that, once Etah was reached, he could establish an advanced base by air at Axel Heiberg Land, with an intermediate base at Cape Thomas Hubbard, and from there launch his polar attempt. The Naval Unit absorbed his enthusiasm, and ambition joined in his plans.

Meanwhile, news had filtered out of the North, by the time they reached Wiscasset, that Amundsen and Ellsworth had returned to Spitzbergen, after twenty-five days' imprisonment in an ice lead. Eight hours out from Spitzbergen—the time they had estimated would be required to reach the Pole—the two ships had descended in an open water lead 136 miles from the Pole, having been drifted to the westward in a strong northeast wind. The fuel in both planes was half gone and, had they continued, they might never have returned. As it was, they barely escaped disaster; the lead closed without warning and before the planes could be maneuvered, the runway space was impoverished by a convergence of the ice pack.

During twenty-five days, the six men worked fran-

tically to clear a way, but they could accomplish nothing with ice that was as thick as thirty feet. Their food began to run low; there was serious danger that a sudden motion in the ice, the coming of a gale, would result in fatal injury to their planes, and leave them stranded on drifting ice, perhaps to be carried by the inexorable flow of the tide across the Pole, and to starvation. On the twenty-fifth day, however, the lead suddenly opened; Amundsen ordered the *N-25* abandoned, its fuel transferred to the *N-24* and the six men boarded the latter machine. Theirs was a daring but successful take-off, and they sped back to a civilization that had quite given up hope.

But the North Pole—although, from the altitude he must have had just before the descent, Amundsen's range of vision easily reached within ninety miles of the Pole—was yet to be conquered by aircraft. In his failure, the Norwegian had brilliantly proved the virtues, as well as the limitations, of the airplane in its new field. The doorway was still ajar for the pioneer; and Byrd, rejoicing in Amundsen's escape, gathered a more intense determination to succeed.

Still, the path to glory was not altogether strewn with rose petals. When the *Peary* and the *Bowdoin* set sail from Wiscasset, on June 20, en route for Sydney, Cape Breton, Nova Scotia, there occurred a most peculiar incident. A low-wave radio set, which the Navy Department had specifically demanded be used by the expedition, was overlooked. Nor was it found, crated and neglected on the docks, until both ships were hull down on the horizon. Mr. McDonald, Commander MacMillan's second-in-command, a radio manufacturer, was in charge of the radio equipment and he had made no secret of his conviction that his own set was superior to the Navy's spark equipment, and alto-

gether adequate. Byrd was radioed this terse instruction by the Navy Department:

"You are not to make a flight from the vicinity of the base ship until radio set is installed to insure communication with planes. Inform MacMillan of Department's decision, which is for the purpose of safeguarding planes and personnel. If this instruction cannot be complied with, arrange to land planes and equipment at Sydney for return to the United States."

There was no doubting the state of mind of the high Naval officials. Byrd went to MacMillan and, by the time the two schooners reached Sydney, the matter was smoothed out. It was just a mistake—although the same error, as the Navy Department pointed out, had been made at Boston. In the rush of departure, the radio must have been overlooked, it was agreed. MacMillan gracefully accepted the set from the destroyer *Putnam,* which had rushed it from Wiscasset, and all seemed serene.

In the long and dangerous trip from Nova Scotia to Greenland, Byrd had his first taste of the Arctic. Five miles east of Cape Harrison the two ships made their first contact with the ice pack, and from that time on the trip along the Labrador coast was fraught with peril. Once the *Peary,* with its precious cargo of planes, ran aground; there was real danger that the rough rocks would spear its sides, and all hands were actually about to abandon ship when the tide swung its bow clear. At Hopedale, a Moravian settlement where the impoverished survivors of a once powerful race have made a last stand in the slow retreat of the Esquimau from his northern outpost, Byrd saw what disease and the exhaustion of animal life had done to a great people. He felt a great sympathy for them and into his heart came an instinctive determination to

return some day, to discover the factors that underlay their decay.

Then, on the run to Greenland, the *Bowdoin's* propeller was smashed, and many valuable days—important because of the few days in summer when flying is safe and free from fog, mist or storm—were lost while it was repaired. In the dreaded Melville Bay, both ships were repeatedly stymied by ice fields; great bergs, large enough to crush them as if they were cardboard, harried them day and night, and Etah seemed a long way off. But persistence and ingenuity cleared the way: on the afternoon of August 1 the little schooners chugged their way into the mountain-locked bay of Etah.

What Byrd and his men accomplished within the next three days, in my mind should serve forever as a striking example of the resourcefulness of the man. As he stood on the bow of the *Peary* and gazed upon this barren world of crusted rock, and mist, and grayness; as he looked upon the boulder-dotted beach upon which he must land his airplanes; and as he saw his vision strangled by the sullen mountains that hemmed him in—surely he must have felt the responsibilities of the task that awaited him. Where was the good landing place he had been told about? How different it was from the image he had conjured up at his desk in Washington! Then it was a land of brilliant mysteries, a glamorous place of shining ice and flowing skies.

But this utter barrenness!

By five o'clock the next morning, the whole Navy Unit was at work transferring the planes from the *Peary* to the shore, setting up the United States Navy's first aerial station on the Arctic Circle. Wings and fuselage must be rowed ashore; a runway must be built of the boxes that crated them, on the rockpile

that served as a beach. It was the hardest kind of work, and all hands, even Esquimaux, who had never seen a plane and in whose minds glimmered not a single conception of the functions of these things of wing and motor, pitched in. Yet, for all the difficulties, Byrd had his unit, planes and all, in flying shape on the 4th of August. It was an astonishing performance. Before the afternoon was out, all three were in the air and tested.

"I cannot understand how these men did this job so quickly and so well," Byrd has said. "It was cold, despite the fact we were supposedly in the middle of summer. Squalls interrupted the work frequently. Half the time the men were forced to work in water to their waists. They never complained, although they worked from day to night."

That night—the midnight sun cast a thin twilight—he and Bennett took off on their first reconnaissance flight, flying as far as Cape Sabine. From an altitude of two thousand feet Byrd could see the limits of an area thirty miles in diameter—a broad and changeless panorama in which the slate-colored mountains suddenly flattened into ice, and the ice stretching northward as far as the eye could see. And beyond the mist-encumbered horizons that Byrd's eyes ecstatically probed—far, far beyond them—lay the fulfilment of his career.

That night he sat on the edge of his bunk, talking with Aviation Mechanic Bennett. Byrd had seen enough to have faith and to have caution. He talked rapidly, and as he did his forefinger traced a series of dashes over the map outspread on his knees. First, they would search for the illusive Crocker Land. Then establish three or four intermediate bases, the ultimate base to be either at Cape Columbia or Cape Thomas Hubbard. The planes could carry enough fuel for the

flight. If the weather only turns out propitiously . . .

"Will you," he suddenly asked Bennett, "go with me?"

The tall young man, with pale eyes, merely smiled. "Of course."

The coming of the next day was to prove to the ambitious naval officer that the "if" in Arctic meteorology was as great an unknown in the explorational equation as the topography toward which the expedition was directed. On the 6th, when all planes were fueled and loaded with supplies for the establishment of the first sub-base on Ellesmere Island, which lay just across the ice-filled channel that was Smith Sound, an opaque fog rolled down from the north, blotting out visibility. Behind it rode a fierce rainstorm that, before long, changed into a snowstorm. The flight was ordered abandoned, and the flyers were compelled to turn their efforts into saving the planes, which the wind threatened to tear loose from their moorings at any moment and dash on the shore.

The storm continued all through the next day—a singular phenomenon in August, even at this northern point. If this kind of weather continued, flight operations would be almost impossible. The flyers sought out the Esquimau weather prophet, a weather-beaten sage of seventy Arctic winters. He shook his head. It had been a hard summer. One of the hardest he had ever seen. Winter would come soon. Perhaps within twenty days. The gulls were flying south.

It was a critical situation, Byrd realized. Would it be possible to lay his bases, accomplish two thousand miles of explorational flying and still make the polar flight? It scarcely seemed probable. It meant aggressive capitalization of every moment of even passable weather. But he was prepared to try, and dare.

All day long, August 8, bad weather continued. The

planes, which were anchored in the bay to buoys, were in constant danger from icebergs; indeed, they barely snatched the *NA-3* from a three-hundred-ton berg that moved upon it with seemingly irresistible intent. Then, just before seven o'clock in the evening, the air cleared abruptly, and Byrd gave orders for the first long flight over Ellesmere Island. When the *NA-3* and the *NA-2* rose from the bay, just after nine o'clock, he was in command of the former, piloted by Lieutenant Reber; and MacMillan was a passenger in the latter, piloted by Lieutenant Schur. All the way from Anoritok, over nineteen miles of corrugated hills, came two Esquimaux to see these strange white men who could fly.

The planes set a course for Cannon Fiord, a point on the western coast of Ellesmere Island, where it was hoped they could lay a sub-station between the main base at Etah and Cape Thomas Hubbard, two hundred miles distant as a plane flies. Never had Byrd seen such a panorama as was unfolded below him at a speed of a hundred miles an hour. Smith Sound was a crazy quilt of floating ice and small black water leads —not a single emergency landing place.

Three thousand feet below lay the vestigial remains of Peary's winter quarters at Payer Harbor, and near it the great boulder that marks the spot where Greely's hapless expedition retreated in the winter of 1883, and where for nine months he and his men lay, unable to bridge the thirty miles to the Esquimau settlement at Etah, courageously accepting the starvation that was to kill eighteen of them before spring.

The explorer MacMillan, who had three times in as many years fought his way across Ellesmere Island with dog-teams, and Byrd, the flying man, watched the landscape with mingled responses. "I looked down from a height of five thousand feet upon big hills over

which we had laboriously pushed our sledges in 1914-16 and in 1924," MacMillan wrote in the National Geographic Magazine. "Stripped down to underwaists and reeking with sweat, we had wallowed in snow thigh-deep, yelling at our dead-tired dogs until our throats were raw and our voices gone. At that time I looked up into the deep-blue sky of a beautiful May day and said to myself: 'Some day the aviator will laugh at this!' The dream had come true, as dreams generally do if one persists in them."

Open water was visible all along the northern shore to the west of Cape Sabine. Buchanan Bay and Kane Basin were sheathed in solid ice. But the wonders of the interior of this island filled them with awe, even MacMillan, whose explorations had naturally followed the water routes and who therefore had scarcely realized the colossal grandeur and the inaccessible magnitude of the mass of mountains that were distributed in interlocking embrace through the central portion.

Marveling at this far-flung waste, Byrd's mind was simultaneously observing another phenomenon. The compass needle was manifesting an unusual sluggishness. Byrd's trained mind understood why, of course. The magnetic Pole, the electrical activity about which actuates the compass needle, lay far to the south of them—on Boothia Peninsula, Canada, and here the magnetism was very weak. There was yet another peculiarity. A series of bearings showed that in addition to the error of deviation to be expected at this latitude, there was an astonishing additional variation.

Quite obviously, it would not be so easy to navigate over the Arctic. Throughout the rest of the flight, which carried them over Flagler Fiords, Byrd's attention was riveted to the compass. Well he realized that the success of his contemplated polar trip depended as much upon his mathematics as engine revolu-

tions; and this first flight he utilized as a laboratory of compass variations. It was to stand him in good stead.

Dark clouds and a perceptible rising of the wind caused them to decide to turn back. The two planes wheeled about and raced for Etah, with a storm growing in their path. Barely had the planes landed and been made secure, before the gale struck the harbor with great violence. Throughout the night the entire expedition labored to protect the planes and the schooners. The menace of icebergs gave them many anxious hours. Once more, flying was impractical, although Byrd did succeed in making a minor reconnaissance flight toward the end of the day.

The situation was becoming grave. Byrd and his shipmates conferred with MacMillan, and urged the necessity of immediate flights. If the original program of exploration of the Polar Sea was to be carried out, it was imperative that a base, plentifully supplied with fuel and food, be made on the northwestern tip of Ellesmere Island. The threat of winter left no doubt that these flights should be undertaken at once; and Byrd proposed to send the three planes through a cleft he had noticed in the great mountains to the south, whence they should proceed to Axel Heiberg Land.

The next morning, with a great clamor of propellers, the three planes quit Etah. Byrd piloted the *NA-1*; Schur, with MacMillan as a passenger, was at the controls of the *NA-2,* and Reber, carrying a mechanic, piloted the *NA-3*. Flying in formation and at an altitude as high as eight thousand feet, the ships nosed into freezing strata of clouds. Hundreds of mountains, many of them uncharted, lay below them, frosted with clouds; others, higher even than the plane, faced rusty precipices toward them as they swept past, their

motors storming in gusty echoes in the valleys and the gaps.

"Hit the eastern end of Bay Fiord at 12:45 P. M.," Byrd reported to the Navy Department of that flight. "The fiord was largely obscured by clouds, and such part of it as could be seen was entirely covered with ice. At 12:48 the *NA-2* disappeared in clouds to the right and the *NA-3,* which was having difficulty getting altitude, turned back toward Etah. The *NA-1* continued to Eureka Sound, southwest of Axel Heiberg Land and two hundred miles from Etah, and found only one suitable landing place. This landing place was only temporary, being an opening in the ice cleared by the wind. This country inaccessible in summer. Astonished to find ice filling all fiords. Was told otherwise."

Thus frustrated, Byrd turned to the southeast again in search of his comrades. A great mass of clouds had swelled up in his path; and, fearful lest he should collide with a mountain in the fog, he abandoned his search and turned home, his plane high above the clouds and in rarefied air so cold that one hand was almost frozen despite the fact it was clothed in a heavy glove. Upon landing at Etah, he saw that his comrades had got back safely enough, and he was glad.

He called the Navy Unit into his cabin, and spoke to them.

"You have seen the kind of country you must fly over," he said quietly. "I want you to know that I shall never *order* you to fly over Ellesmere Island again. It is something for you to determine for yourselves."

They looked at him uneasily.

"Now, we haven't got much time, only a few days, I daresay," he went on, "before the weather will

change. I want to establish a base at Beistad Fiord to-night. Who will come?"

Every man stepped forward.

At nine o'clock that night, with Bennett and Byrd leading the way in the *NA-1,* the amphibians took off for Ellesmere Island. En route, the *NA-2* developed motor trouble and turned back, and the other two continued. Arriving at their goal, they found that a landing was impossible. A strong cross-wind had sprung up in the south, and Byrd turned about for a study of the coast. At the base of the great glacier at Hayes Fiord he saw a likely landing spot, and the two planes gingerly came down, somewhat apprehensive of the uneven currents of air that flowed over the glacier.

Although they had achieved a landing—the first yet made by air on Ellesmere Island—they found the position untenable because of the strong winds descending the face of the glacier towering sheer nearly half a mile above them. So, with their base supplies still aboard, they flew for Etah at midnight, tired but not discouraged. For Byrd, in the chaos below him, had seen open water at the mouth of Flagler Fiord and believed that here, perhaps, was the intermediate base for which he was seeking.

The next day—the 12th—brought more winds; flying was out of the question. And the following day was full of the evil luck that dwells in "13." First of all, the *NA-2,* which had been riding at the end of a rope attached to the *Bowdoin,* began to sink, nose first, its red, white and blue tail lifting high in the air. Only the prompt action of the Navy mechanic, in hastily throwing overboard all the weighty equipment stored in the cockpit, saved it. Then fire broke out in the *Peary.* And the day—a typical Arctic day, MacMillan described it—ended with every man attempting

to save the *NA-1* and the *NA-3,* which were being swept out of the harbor by the pressure of ice floes.

Momentarily, as he superintended the rescue operations, Byrd expected to see a jagged bit of ice from the towering bergs lance the thin fabric sides of his ship. His mechanics sat on the tip ends of the wings, thrusting the plane away with stiff legs. Not until long after midnight did they dare to relent in their vigil. As for the *NA-2,* it was temporarily out of commission. Salt water had flooded the engine and ruined it.

In spite of fatigue, Bennett and Byrd in the *NA-1,* and Schur and Sorenson in the *NA-3,* flew to Flagler Fiord and there laid their first base—two hundred pounds of food and one hundred gallons of petrol, besides oil, rifles and ammunition and a complete camping outfit. Even here did they run into danger. A great cake of ice, moving with amazing velocity before the wind, cracked against the *NA-1* and Byrd and Bennett floundered in icy waters for many minutes before they got the plane free. But in Byrd's heart was a deep exultation. They had landed their first base, 107 miles from Etah, and although it had taken fourteen days to accomplish this seeming easy task, he felt more confident then than he had in many days.

So, the next day, the same two planes renewed the struggle, only to find that the Arctic had balked them again. Where they had landed in open water not twenty hours before, the fiord was now filled with floating ice. Undiscouraged, Byrd waggled the wings of the *NA-1* and set out in search of another place, the *NA-3* following a little above and behind. It was an eerie experience, floating in and out of the dim twilight that eluded the dying rays of the midnight sun in the depths of the fiords. Suddenly Byrd realized that the *NA-3* was no longer following them.

Had its motor failed and caused it to plunge into the dim chaos of rock and ice below, from which no plane could hope to rise? Byrd's heart turned sick. With Bennett at the controls, they wheeled about, came dangerously low and tried to find some trace of it. Half an hour passed without result. Then into the mumble of their low-throttled motor came a droning overtone.

"There he is!" shouted Bennett. Far in the distance was a moving spot of black against the skies—the *NA-3,* headed recklessly out across the Polar seas.

"Chase him," Byrd ordered. And under full power the *NA-1* raced through the twilight, mountains and fiords scurrying under its wings, in pursuit of a plane that already had a fifteen-mile start. If they did not overtake it, the *NA-3*—it was quite obvious that something had happened to the compass—might continue right on, as Byrd thought smilingly, to the North Pole. It was an amusing incident, in retrospect, but hardly then. The life of Nold, the pilot, was in the balance.

Not until they had covered seventy-five miles at full throttle did Bennett and Byrd overtake the other plane; and they had difficulty in making the pilot understand. Finally Bennett cut sharply across the path of the *NA-3* and waved backwards. Nold's face—the planes were not fifty feet apart—grinned understandingly.

"That was the loneliest ride I ever had in my life," Nold announced, when they were all back at Etah.

"It would have been a damned sight lonelier," Bennett interrupted, "if we hadn't caught up with you."

On the night of the 15th, Byrd undertook his most ambitious flight. It was now or never. He would now aim for Cannon Fiord.

An hour before midnight, loaded with supplies, the *NA-1* and the *NA-3,* with Byrd and Bennett in the

former and Schur and Sorenson in the latter, hopped from Etah and headed into the northwest. Half an hour out, they were plunged into thick clouds from which they managed to free themselves. At Sawyer Bay, a short distance from the ice-blocked base at Flagler Fiord, they descried an opening in the ice and landed, there to await better weather.

At four o'clock, Byrd gave the order to start, but the *NA-3* had developed a bad motor knock. Quite obviously, it would lack the power to hurdle the mountains that lay ahead. Byrd ordered the pilot to await his return, and he and Bennett started out alone for Cannon Fiord. The dispatch he sent to the Navy, cryptic as is everything he writes, is evidence indeed of the factors of danger in Arctic flight:

"At altitude of five thousand feet cleared mountains and got over the unexplored regions of Grinnell Land. Found high, uncharted mountains entirely covered with snow. Saw many square miles of land never seen by man. There was an uncharted lake frozen over. The jaggedness, irregularity and many deep valleys presented a magnificent but awful spectacle. The air was the roughest ever experienced by us.

"At 5:30 reached high peaks that were completely covered with clouds. Made effort to get through, but it was impossible. We returned to Sawyer Bay, deposited one hundred gallons of fuel and some pemmican, and returned."

In between the lines of that dispatch ran a story of struggle that many times trembled on the precipice of disaster. Down currents of air, rolling at terrific velocities from the slopes of the mountains, clashing at points of intersections at the convergence of fiords, and becoming huge powerful whirlpools, repeatedly trapped the amphibian and threatened to dash it against cliffs. The motor howled protestingly and

barely held its own; a sudden change in air pressure would drop the plane with a terrific jolt a hundred feet at a time, and once Bennett barely prevented a disastrous side-slip into a gaping valley.

The return flight from Sawyer Bay was almost as difficult. When halfway back, they encountered a gale that was half as powerful as their motors at full speed; it was only by the most desperate maneuverings that they bridged the mist-capped mountains and settled down in the bay at Etah. They had been gone nearly nine hours, and the camp had been more than a little apprehensive.

Now more snow came, and a gale; yet through it all, although suffering from frost bite and exposure, the Navy Unit worked unremittingly to recondition the planes, now sadly in need of repairs. Every effort to recondition the *NA-2* had failed, and the *NA-1* required a new motor. It was no easy job to swing a nine-hundred pound motor, but the mechanics did not hesitate. Misfortune, however, still held back another blow.

As the officers stood on the beach that night, discussing plans, some one saw a column of flame shoot under the prow of the *Bowdoin,* to which the *NA-3* was moored. A film of gasoline on the water had become ignited, and the fire was racing toward the helpless ship. With fine disregard of life, Sorenson and Nold got the plane but none too quickly. The wings were already afire. Badly damaged as they were, they were not altogether beyond repair. Byrd examined it carefully, and made a quick decision.

"Repair this plane alone, put in a new engine, and let the others go," he ordered. He would cast his lot on this single ship. He had come this far, but he would not go back.

MacMillan meanwhile made it clear that he was

opposed to further flights. In eighteen days, he pointed out, the three planes had succeeded in establishing only two small caches of food and fuel, and these only one hundred and seven miles away. More, with winter drawing near and the realization that ice might soon block them in the harbor for the winter, he was eager to embark upon his own expedition in Greenland. In this, his aide, McDonald, concurred.

But the Navy group, to a man, did not give up hope. They were determined to push forward with Byrd, to continue to the foot of the Arctic Sea. It was inevitable that the conflict of aims should result in argument. Indeed, Bennett has told me, the feeling grew so intense that the Naval group deliberately undertook to achieve self-independence.

On May 20, the *NA-3* was fully repaired. Byrd went to MacMillan's cabin and, in measured tones, proposed to fly the *NA-3,* unescorted, across Ellesmere Island to Cape Hubbard. MacMillan vetoed the idea at once. "Etah Fiord froze last night," he said. "If you make a forced landing, your plane will be ice-locked for the winter."

That afternoon MacMillan radioed the Navy Department:

"I am convinced that far northern Arctic work is extremely hazardous in heavier-than-air planes, simply because landing places are few and food caches cannot be relied upon. The lighter-than-air machines can do the work, and should do it at once.

"If the officials of the Navy could see the conditions from the air, I am sure that orders would have been issued to stop all work at once, due to bad weather, clouds, fog and sea."

Byrd, learning that the dispatch had been radioed, at once notified the Navy that, in his opinion, Arctic work with airplanes was not only feasible, but logical!

That same day, Secretary of the Navy Wilbur at Washington radioed Byrd to desist from further attempts to reach Axel Heiberg Land. "Withdraw with MacMillan and make such flights in secondary exploration, as expedition returns south, as you deem practical."

That afternoon, MacMillan issued orders for the immediate abandonment of the base and the retreat to the southward. On August 22, as the *Bowdoin* moved out of the quiet bay in which he had struggled so long, Byrd sent a final message to the Department:

"I am very much disappointed that we cannot continue to accomplish our mission, and have so expressed myself, but do not presume that I question Commander MacMillan's good judgment. Nor do I fail to sympathize with him in his position and know it is with great reluctance that he gives orders to abandon our flight.

"The navy personnel with me has put forth superhuman efforts during this undertaking and I am proud of them even if time has been wanting to accomplish the mission. They have overcome great obstacles and have shown great courage and deserve better success."

Rather than dismantle the planes at Etah, where storms were expected momentarily, it was decided to fly the *NA-1* and *NA-3* to Igloodahouny, an Esquimau village to the south, where they were met by the *Bowdoin*. The aviation phase of the expedition closed with two short flights—one in which Bennett took MacMillan's old dog-driver, E-took-a-shoo, for a short hop; the other a reconnaissance over Robertson Bay and the Greenland ice-cap by Byrd and Bennett.

Those more civilized people who still pause before the idea of an airplane ride might learn much from the reactions of two Esquimaux who flew in these Navy planes. The first was In-you-gee-to, veteran driver on Peary's "dash." Although neither he nor E-took-a-

shoo had ever seen a plane before, such was their faith in the white man and his creations that they did not hesitate. The fact that they were breath-takingly projected into space in an instrument that their own civilization can never possibly devise (that, in their age-long experience, they could scarcely have even imagined) did not betray in their faces.

"From the unchanged expression of their faces," Bennett once told me, "you'd have thought they taught the Wright Brothers to fly."

Now the planes were dismantled, and MacMillan turned for Greenland and the famous Norse ruins, at the head of the mighty Godthaab Fiord, where Byrd was to stand in wonderment before mountains that rose sheerly a mile above the water lapping their bases, the same water stirred by the Viking high-prowed boats nearly ten centuries before.

Had his first Arctic Expedition really failed?

In the fifteen days that actually the expedition was prepared to fly (it had taken three days to assemble the planes) only three and three-quarters were good flying days. Yet in that time the planes flew six thousand miles, where original plans had contemplated no more than two thousand, and in that distance enabled him to view no less than thirty thousand square miles of territory, the greater portion of which had never been seen by the white man.

Within a few short hours, he had overlapped the routes that had taken MacMillan, traveling on foot and undergoing soul-trying hardships, three years to accomplish. The airplane, by his experiment, had actually increased the speed of Arctic travel seventy-five hundred per cent!

More, despite the multitudinous hazards, he had lived up to Secretary Wilbur's final words: "First,

bring the personnel back safe and well; secondly, bring back the planes."

He had learned why Peary had devoted a life-time to reach the Pole, in this great whiteness where tragedy dwells in concord with failure. And he had studied the causes that underlay them. Had not the actual explorational work been carried out without a single forced landing? More, in this area where navigation is so difficult, particularly in such a speedy vehicle as the airplane, he had each time achieved his base. More, that invaluable instrument, the sun compass, invented by Albert H. Bumstead, chief cartographer of the National Geographic Society, had demonstrated its value as an instrument in Arctic navigation.

The time had come, he became convinced, to factualize Peary's prophecy!

"Bennett, I shall fly to the Pole next year," he told his aviation mechanic. "And I want you. Will you come?"

The pilot's eyes betrayed no amazement. "Of course," he replied. The two men plunged into plans. They would this time start from Spitzbergen, scene of Amundsen's great attempts, but they would use a land plane, with greater velocity and a greater cruising range to offset the headwinds that drove the Norwegian down.

When he reported to Wilbur, that fall, a mighty faith was in him. He flatly contradicted the contentions of the skeptics.

"The airplane will conquer the Arctic, and the Antarctic as well," he said, quietly. "It will be dangerous; it will be difficult; but it will be done soon."

CHAPTER VII

BYRD PREPARES FOR THE POLE

IT was late in January before Byrd and Bennett could get down to unhampered work on their expedition. And by that time, too, eight other expeditions, of divers types and equipment, had reached the formative stage and the North Pole, scanned by only two men in the known history of the world, speedily promised to be a lively place. There was Wilkins, the energetic Australian, who was making ready for a non-stop flight across the polar seas from Point Barrow, Alaska, to Spitzbergen. That incomparable team, Amundsen and Ellsworth, had purchased the Italian dirigible, *Norge,* for a non-stop flight in the opposite direction. An Army aviator was half-heartedly attempting to organize a University Men's expedition. Dr. Hugo Eckener, head of the Zeppelin works and a famous dirigible man, announced plans for a specially designed dirigible with a cruising radius that could carry it over the top of the world and down into China. And the French and Russians were organizing their own independent efforts. Each was drawing its own share of attention; and a world, which only seventeen years before had been stimulated by Peary's two-year "dash" to the Pole, responded keenly to the promise that men might accomplish the same hazardous venture in twenty hours.

"I think," said Bennett, one afternoon, as he scanned the newspaper accounts of the progress of the rival enterprises, "that this north polar axis is going to

crack under the sheer weight of explorers by the time we get there, if we don't get a move on."

Byrd smiled. "Don't worry. We'll be there."

A few days later Secretary of the Navy Wilbur granted them half a year's leave. The gesture formally freed them from all entanglements, from all red tape save that of their own making. It was the start of their adventure and Byrd, for the first time since he became a naval officer, stood alone on the threshold of a mighty dream of his own fabrication. The thought came to him as he quit the office in which he had worked so long.

Even as Peary had not failed the Navy afoot, so must he not fail the Navy in the air! His soul expanded with freshened resolutions. He must win. But he faced a task that might have cracked the heart of a less determined and less resolute man. With his competitors pushing ahead under the impetus of accumulated resources, he must materialize a whole expedition out of thin air, and beat them to that pinpoint in space at the northern axis of the world.

A plane must be purchased. He had already decided which one. A tri-motored Fokker, with a range of twenty-five hundred miles, splendidly adapted for the flight. He must gather together an expedition of fifty men, train them for the job in hand. He must find a stout steamer with which to ferry his enterprise to Spitzbergen. He must have experts to supervise a dozen intricate tasks. All this he must do in less than three months. And he needed money.

In December Byrd stood again in the office of Edsel Ford, and again challenged that young man's faith in the future of aviation. But this time he calmly asked him to finance an expedition which, if successful, would bring renown to the firm that was Ford's greatest competitor in the aeronautical field. The two men under-

stood each other, and sensitively understood the delicacies of the situation. There was no table pounding, no deft exchange of platitudes. Byrd earnestly outlined his plan: told how he had dreamed this thing for years: what he hoped to do, and how he would do it.

"I have one plane," he concluded, "in mind. If anything happens to it, I'm stopped."

"You don't expect anything to happen to it, do you?" asked the younger Ford, smiling.

Byrd did not hesitate.

"We are attempting a dangerous experiment. For one thing, we are compelled to take-off a tremendous load with skis, something that has never been done before. There are possibilities which cannot be anticipated. I tell you this," he concluded, "because I do not want to mislead you."

"I understand," Edsel Ford answered, reaching for his checkbook. "And I believe you are doing a great thing. I do not think that you will fail."

He promptly wrote for Byrd a twenty-thousand-dollar check, a contribution made without strings. It was the check that provided the springboard for Byrd's polar effort; without it, the expedition must have remained static.

"I shall never forget that moment," Byrd has said, "because it seemed then the most important in my life. Standing before Edsel Ford, I seemed to see everything I ever wanted balancing on a thin point in space. If he had said 'No,' I could not have gone on that year.

"For I depended upon his faith in the airplane. If he did not have it, I was convinced it would be quite useless to go elsewhere. But he did not fail me."

Measured against the ultimate costs, twenty thousand dollars was not an important sum. But in this particular instance it was like a rub on Aladdin's lamp.

Byrd now went to the Shipping Board, where he had many friends, and secured the loan of the three thousand-ton steamer *Chantier,* a relic of the wartime "wooden fleet" which then lay unused off Staten Island, waiting for auction, for the nominal cost of one dollar a year. Wasting no time, Byrd rushed Ford's money into circulation with an elaborate program for outfitting the ship to meet the special requirements of the long haul to Spitzbergen.

Then he went to John D. Rockefeller, Jr., and here, as in the case of the younger Ford, he chose his man deliberately and wisely. Although scarcely to be classed as an aviation enthusiast, the junior Rockefeller has always been intensely interested in any effort that tends to advance man's knowledge, a fact of which Byrd was aware. The broadness of this plan of Byrd's fascinated him and, while he urged the flying man to tell him the full story of his project, he wrote a check that equaled Ford's.

Thus, by acting as his own financier, traveling salesman, organizer and scientist, Byrd got his expedition together. True, he was still far short of the quota of one hundred and forty thousand dollars he had set as the minimum required to finance the undertaking; but rather than wait for it, he pressed on with the more important work of organization, hoping that more money would be forthcoming before the cash register was empty. And out of the chaos of the beginning there rapidly flourished under his genius an amazing orderliness.

By the middle of March, less than two months after he and Bennett had quit their desks in the Bureau of Navigation, the Byrd Arctic Expedition had grown from nothing into a highly organized and smoothly running mechanism. The big Fokker was ready, and special skis, three sets in all, had been manufactured

Thanks to the indefatigable labors of Tom Mulroy, chief engineer of the non-sea-going fleet at Staten Island, who had been assigned by the Shipping Board to Byrd's expedition, he had thoroughly reconditioned the *Chantier*. Supplies were pouring in from all parts of the country, and the doorway of Byrd's busy office was constantly darkened by the shoulders of adventuresome young men, and sickly lads with thick-rimmed glasses, and business men who were tired of debits and credits and shrewish wives, who were eager to volunteer under his ægis.

Yet it must not be recorded that Byrd let the need for speed stultify the efficiency he had demanded. That early cautious observance of detail was omnipresent in his program. The best men must be selected, even for the minor posts. And even as he had chosen the big tri-motored Fokker because it represented to his mind the most advanced vehicle of its type, and was therefore the more costly, so did he choose the best equipment for his expedition.

He studied oils because he knew that lubrication of a high-speed engine in the upper latitudes was an unchecked study. A poor quality of oil—an oil that tended to freeze or congeal in the lower temperatures —would mean disaster. He sent to Alaska for his boots and his furs, because he knew that an improperly made glove might mean a frozen hand; and a frozen hand at a critical time held frightful implications. He ordered pemmican and special foods from the Yukon. He gathered the best navigational instruments available. Down to the smallest detail, he sheathed his enterprise against the possibility of danger. Much as he loved it, it was not always inspiring work; and the nights that he got to bed before dawn came racing up to his windows were very few. He engaged Lieu-

tenant George O. Noville, former naval flyer and an oil expert, to help him out.

It is a curious trait in Byrd that his caution varies in direct proportion with his excitement. In most men there is a tendency to become reckless when the blood is racing. Not so with Byrd. It is then that he calculates most fiercely; guards his factors of safety the most; and strikes his decision with a flinty coldness of mind undisturbed by the higher pressure in his heart. The race, he knew, is not always to the swift. Ninety-nine times out of a hundred, particularly in this business of exploration, it is to him who prepares the most carefully. So he steeled himself with this conviction while he watched his competitors, profiting by their earlier start, seemingly hopelessly outdistance his preparations.

With two single-engined Fokkers, Wilkins' "Detroit Arctic Expedition" was basing at Fairbanks and Point Barrow. From the first named point, after a few test flights the Australian planned to speed two thousand and ninety miles across the polar seas, in an effort to determine whether or not land existed in the vast area between there and the Pole that had never been seen by human eyes. In his haste, he was leaving much to chance; and he was to pay for it with bitter disappointments in the end. Amundsen and Ellsworth, on the other hand, full-tempered by the hazards of the North, were proceeding carefully. They, too, were mobilizing a small army of specialists and scientists, and gathering the best equipment they could command. The *Norge* was almost ready to be flown from Rome, where it had been commissioned, to the Arctic.

In view of the circumstances of the competition, it is interesting to note here a statement that Amundsen gave a newspaperman in Oslo, on April 9, just three

days after Byrd's ship had stood out to sea from New York.

"In polar exploration," he said, and he knew as much about it as any man of his time, "the most important thing is details. Wilkins is now at Point Barrow without oil for his machines. His is a headless attempt to conquer the North Pole in an attempt to beat me.

"I have far more faith in the chances of the Byrd expedition. I met Byrd in New York and discussed his plans with him. I found them entirely sound and effective. Byrd is a real competitor and will probably be ready to start from Spitzbergen simultaneously with the *Norge*. I wish him every success and have promised him all possible assistance."

Many years before, one of Amundsen's illustrious countrymen, Nansen, remarked to President Roosevelt, while Peary was struggling into the great whiteness: "Peary is your best man. In fact, I think he is on the whole the best of the men now trying to reach the Pole, and there is a good chance that he will be the one to succeed." It was truly a singular parallel; and destiny once more was to single out an American for the honor toward which Nansen, Amundsen and hundreds of famous Norsemen had struggled for more than three centuries.

For all the fact that the hundred-mile-an-hour airplane had definitely supplanted the incongruously slow dog-team as the logical means of exploration of the unknown polar territories, Byrd was keenly appreciative of the fact that a "dash for the pole" was not something to be lightly undertaken. Where the pioneers of other centuries had faltered, retreated, surged forward again with indomitable persistency, to advance the hungry eyes of man into this vast uncharted region, he was himself, for all the fact that he pos-

sessed one of the most flexible instruments of a mechanical civilization, essentially a pioneer. True, there was much to be gathered from history, a rich lode of knowledge from which he could gain valuable guidance. But there were no known short cuts that he might apply to his problem. Introducing a new instrument into an old field, he must cast his lot upon his preparations, and stand or fall according to the wisdom with which they were contrived. That much he had learned at Etah.

Possibly in no given field that has attracted the concerted investigatory efforts of men has it been possible to succeed so grandly, or fail so disastrously, as in the great white space circumscribed by the Arctic Circle. Here, methods of exploration that obtained successfully in other parts of the world must be cast aside. It is a gigantic laboratory, encompassing millions of square miles of ice and seas, that ruthlessly compels those who would adapt it to their own intellectual devices to submit, themselves, to a soul-trying adaptation. For the Pole, which has magnetized the hearts of ten thousand men even as its magnetic cousin attracts the compass needle, has demanded of those who would approach it, unflinching courage, a fortitude as deep as the Arctic night, a boundless energy and a hope as deathless as itself.

It is a struggle that antedates the emergence of the civilization we know to-day. It was first begun under the reign of that king of many parts, Henry VIII, and from that time, nearly three and one-half centuries ago, has never ceased. Assault after assault, from every conceivable northern post of civilization, was hurled into this challenging area of resistance. The total moneys spent, it has been estimated, at present-day value would almost cancel the French war debt. Nearly a thousand lives were lost. But men

inched onward and upward, to advance the boundaries of knowledge, until finally, with Peary's magnificent thrust in 1909, they gained the Pole itself.

The conquest actually began less than one hundred years after Columbus discovered America. It had, for its impetus, the ambition of men to hew across the top of the world a new and vastly-shortened route to China and the Indies, and to the wealth of trade therein. The first recorded "farthest north" was reached by the British navigator, John Davis, who in 1588 cut athwart the southern tip of Greenland and proceeded to 72° 12′. Less than twenty years later, Henry Hudson, plowing through the ice floes off Spitzbergen, penetrated northward to 80° 23′; and to Great Britain, therefore, went the honor of the first two "farthest north"; an honor it was to hold, by a succession of thrusts, for three hundred and fifty years, with a brief hiatus.

The nineteenth century saw a magnificent assault upon the northern latitudes. Gallant men in wooden ships, Dutchmen, Frenchmen, Britishers, Germans and Norsemen, pushed stubbornly into the great ice caps fringing Greenland and Spitzbergen, in a restless quest for the Northwest Passage. The Britisher, Parry, after frightful hardships, penetrated half the uncharted distance between Greenland and the Bering Sea, and advanced to the 110th Meridian west of Greenwich. In 1827, convinced that ice blocked to ships the route to China, he struck out from Spitzbergen on foot, with reindeer and sleighs to carry his supplies, and finally reached 82° 45′, four hundred and thirty-five miles from the Pole. After a month of ceaseless toil, he and his men had advanced only one hundred and fifty miles when they began to retreat; and they underwent incredible suffering.

But his discoveries revolutionized the known

methods of polar exploration. If men were to reach the top of the world, they must abandon their comfortable ships and trust to their feet and to dogs, to carry them across the frozen polar seas. When Parry's findings were circulated through the world, it encouraged men to renew their efforts. Governments financed new expeditions, and the drums of adventure beat with renewed frenzy.

The terrible disaster that overtook Sir John Franklin and his two ships, the *Erebus* and the *Terror,* did not deter them. Splendidly equipped with experienced men and the best of supplies, having just returned from extensive and brilliant explorations in the Antarctic, Franklin left England in 1845, and the world believed that, if any man was capable of it, he was the man who would bring to an end the costly struggle for the Northwest Passage. Instead, he was to provide the most tragic story in the history of Arctic exploration—of seven score men, driven by hunger from ships trapped in the ice, plodding futilely back toward a civilization they were never to reach; desperate men who "fell down and died as they walked."

But, the energies of man being what they are, progress outpaced disaster; hope proved stronger than cold. In 1875, the Englishman, Aldrich, advanced his flag three miles nearer than Parry's farthest north and his colleague, Markham, before scurvy crippled his men, pushed to 83° 20′. Then came the ghastly saga of that gallant American naval officer, A. W. Greely, on the shores of Greenland. Having planted the American flag at 83° 24′, he waited vainly for his supply ships. It was a costly victory for four miles of gain. When the relief ship finally got through in the spring, only seven men were alive to greet it.

Consider, too, the dreadful story of privation that was Commander De Long's. In search of a supposed

continent between Asia and Greenland, this American naval officer pressed an exploration into the seas of the Siberian coast. In the September of 1879, his ship, the *Jeanette,* was icebound, one hundred and fifty miles from land, and for two years he and his men maintained hapless vigil aboard, while the moving sea of ice carried them through the heart of the region where the mighty continent was assumed to be. Then, in mid-winter, the expansion of the ice crushed the ship and drove the survivors to the ice floes. Only nine men, who finally stumbled into a Russian village after four months of struggle, were saved. De Long perished of hunger on the shores of Siberia. Others, lacking food, drifted helplessly into the polar seas, and perished. And still others were drowned.

And so it went. Stout-hearted men pitting their brains against an immense solitude that responded only to muscle and endurance and courage; pitting fragile ships against the crushing constrictions of ice. Mile by mile, at frightful cost, they slowly extended the boundaries of science until one man, less than two decades ago, stood in lonely majesty at the apex of the world.

It was a chronicle of struggle that Byrd knew by heart. His library at home was a most comprehensive compilation of scientific papers dealing with these expeditions, and he had studied them thoroughly. Romancer himself at heart, he was sensitively attuned to the impulses that urged Amundsen, De Long, Greely, Nansen. He knew, too, how dimly drawn was the border line between success and disaster. So, in planning his own expedition, he made of these historical attempts a series of pigeon-holed archives and, in so far as human intelligence could assure it, met and overcame his own hazards in New York.

If ever a man went into the great "white spaces" on

the polar map with a mentality thoroughly grounded in the problems he had to face, it was Byrd; and, if ever a man was to flutter on the precipice of disaster, again and again, yet retrieve himself by sheer weight of will, it was this young man who knew what he wanted, and would not cease until he got it.

"The easiest way a man can make a monkey of himself," he told a friend, just before his expedition got under way, "is to take up Arctic explorational work by airplane. It is pioneering stuff of the toughest quality. Suppose you crack up at the start? There are no machine shops in the Arctic. Your expedition, therefore, is stopped before it actually gets under way. You have failed in the first place; and, in having failed, lay yourself open to criticism, ridicule and even bankruptcy."

Let us see what he faces!

First of all, sixteen hundred miles of flying over the polar ice. Suppose his motors fail somewhere along that curving route to the Pole?

"There isn't a safe place," cynically commented Amundsen, who ought to know what he was talking about, "to land a heavy plane with skis between Cape Mitre and the Pole. If you come down in open water, and there is a lot of it, you haven't a chance. And if you try to land on the deceptive ice, it means a crash. In any event, motor failure means wreckage of the plane, ninety-nine times out of one hundred.

"And it's a long and dangerous walk home, over open leads and rotten ice, for two men without dogs and with limited rations."

It was a frank skepticism echoed in many parts of the world.

"Very well," answered Byrd and Bennett. "We don't intend to come down. We have a tri-motored plane, tested in fifteen thousand miles of flight, capable

of operating on two. We shall place our trust in our motors."

The most impressive hazard, as he and Bennett viewed it, was the take-off with skis. Here was a whole unmapped field of technical research. Could these flexible, tapering surfaces, necessarily light because of their limited function, withstand shock and still lift six tons of concentrated load from an ice-stubbled runway?

"We doubt it," answered the skeptics. "The chances are all against you. The dirigible is the logical craft for polar exploration. It needs no runway. It need not trust itself to fragile skis."

"We'll take the chance," answered the two aviators. "If we can use the skis, the advantage is ours. We have the greater speed and flexibility. If we meet headwinds, our monoplane will not be retarded so much as the dirigible, and therefore will run less chance of exhaustion of fuel. Again, if we encounter ice-forming mists, our monoplane, lacking the vulnerable area of the dirigible, is not so likely, by far, to be forced down."

Yet it was undeniably a dangerous venture. So much did depend upon the imponderables! Nothing could be left to chance. More, so much depended upon the utter stanchness and reliability of their vehicle. If it failed, then they must fail. Unlike the old explorers, who could still plow forward if a sledge broke, or a dog died, or a man on the expedition collapsed, they must stand or fall upon the untested capabilities of their single propulsive unit.

Not a few people thought it was altogether too much of a chance. Wilkins was having a devil of a time in Alaska. Unused to skis, his pilots had repeatedly damaged the planes on take-offs and landings. And apart from these mishaps, a newspaper corre-

spondent had walked into a propeller and was instantly killed. The press was inclined to be captious, and much of its warning was directed toward Byrd. His friends, too, insisted that he was on a fool's errand.

"I'll be damned," said one of them testily, "if I'll contribute any money to help you commit suicide. If you come back—and I doubt it—I'll make you a millionaire in business, if you'll give up this foolish flying."

Byrd smiled back at him. "Somebody has to explore," he answered quietly, "and it is the job I have picked out for myself. I shall be back, but . . . I won't take up your offer."

He was to come back, and one of the first to greet and applaud him was this same man; and it is interesting to note here, incidentally, that this man, a millionaire, is one of the greatest flying enthusiasts in the world to-day.

But it had been his father who felt the hazards the most. He was sure his son was preparing for his own destruction, and he could not understand why Dick, of his three sons, should thus deliberately contravene the placid workings of destiny. Two years before, when his son had just broached this idea, he had tried to crush it.

"I don't like flying," he repeatedly told his wife. "And I am afraid Dick will never come back from this polar flight. He is too reckless."

"Then why," she asked, "don't you stop him?"

"I have tried," he answered, with a weary gesture of his slender hand. "It is impossible. He is determined to go."

Meanwhile, Byrd and Bennett, stopping now and then to listen politely to their critics, went about their work. From five hundred volunteers they picked forty-six men, and the roster was a cross-section of the

social scale. The sons of millionaires were rated the same as the sons of plumbers. West Point graduates, who had held captaincies during the War, volunteered as seamen. There were a few hard-boiled adventurers, toughened in a hard school of experience, who had followed the sea all their life, who were taken along to shoulder the greater part of the burden until the recruits became seasoned. Otherwise, it was essentially an amateur expedition, made up of intelligent, able-bodied young men who thirsted after the new and the spectacular, and who were willing to work.

Assistance, financial and otherwise, was proffered from every conceivable quarter. The Weather Bureau, upon Byrd's request, lent him one of its most brilliant meteorologists, William Haines. Dr. Daniel O'Brien was contributed by Johns Hopkins University. The Wright Aeronautical Company offered its famous mechanic, the delightful "Doc" Kinkade. One big corporation donated oil, and another fuel. Foodstuffs of all sorts were contributed, and the total value of skill and equipment involved ran into tens of thousands of dollars.

But when April 1 came, Byrd was still at least thirty thousand dollars short of the amount of money he needed for additional supplies and salaries. It was a lot of money. And Amundsen and Ellsworth were getting ready. The *Norge* was preparing to quit Rome.

"We'll take a chance," said Byrd. "I'll stand responsible for the difference."

He had signed contracts for the newspaper and pictorial rights to the expedition, which would pay off his debt, if he succeeded; worth little or nothing, if he failed.

So, at 3:30 o'clock on the afternoon of April 5, to the accompaniment of a shrieking valedictory from

the steam whistles of harbor craft, the *Chantier,* thoroughly reconditioned and with fifteen hundred tons of coal in its hold, moved out of the Brooklyn Navy Yard and stood out to sea, bound for Spitzbergen. In its hold was the tri-motored Fokker, now christened the *Josephine Ford,* in honor of Edsel Ford's daughter, and a little Curtiss Oriole, christened *Richard the Third,* after Byrd's son, which was to be used simply for scouting work.

Byrd's first great adventure was begun!

Although it constitutes little more than a diverting prelude to the soul-breaking days of struggle on the slopes of King's Bay, it is worth while to chronicle part of the log of the *Chantier,* not only because it is, in itself, interesting, but also because it discloses those hidden and unanticipated difficulties that overtake the explorer who, through impoverishment of his pocketbook, must take a green crew. Lord knows, any landlubber is a source of comedy on the high seas. But it was not long before Captain Brennan, the skipper, and his rigid disciplinarian, Tom Mulroy, the chief engineer, ceased to hold their sides and began to look for belaying pins.

In the first place, Mulroy discovered that the original crew he had signed up for the boiler room made a practice of departing unanimously from the path of rectitude. So he fired the whole crowd, willy-nilly, a few days before the start, and simultaneously made the discovery he was without a gang to fire his boilers. While he stood scratching his head, and wondering how he could solve this problem, along came a broad-shouldered Norwegian, looking for a job. He was a fireman, and he hadn't missed much in the way of experience.

Mulroy seized upon him ecstatically. "Do you

know where there are any more like you?" he demanded.

"Sure," answered the visitor, "how many of 'em do you want?"

Within two hours, he recruited the whole staff—hard-bitten men, with iron in their shoulders, men who knew the intricacies of the "black hole," and who could be depended upon to keep a business-like pressure in the gauges while the greenhorns served their apprenticeship and learned how to swing a shovel of coal. Too, in Parker and Karzolka, the oilers; Kessler, a fireman; Alfred Davis, first assistant engineer; Carlson, the second assistant engineer, and Gray, third assistant engineer, Mulroy had a thoroughly seasoned staff. And a precious nucleus it turned out to be. For Byrd demanded full speed ahead in the race to Spitzbergen, to beat the *Norge,* and without these unsung, unnoticed heroes below, who cheerfully shouldered their own tasks and those of their inexperienced shipmates, he never could have won.

The two West Pointers, Tom Mulroy's diary shows, were blessed with the soldier's ignorance of all matters maritime. Mulroy, possessed of enough troubles down below, speedily elevated them to the decks, where they were shunted into the galley. Willing though their hands were, they lacked precision, and the breakage reached such awful proportions that Captain Brennan assigned them to the crow's nest, as look-outs.

About midnight, when the *Chantier* was, by all calculations, comfortably well out to sea, one of them bawled out:

"Lighthouse to the left—I mean port!"

Captain Brennan, who happened to be awake, dashed out of his cabin, prepared to annihilate the helmsman.

"Where is it?" he demanded.

"Right over there—see it blink?" floated down from aloft.

Captain Brennan was worried. Byrd came out. Soon all eyes were trying to locate the mysterious beacon while the lookout directed them from the darkness above. But it wasn't until all hands had been aroused by the tumult that it was discovered the "lighthouse" the young man was trying to point out was only a star.

Then there is the lovely incident in which a former captain in the army played a hapless rôle. Two days out, Frank De Luca, the mate, ordered him to wash down the anchor chain. "Get a fire hose," he said, "and get it quick." De Luca was a mate of the old school, and they aren't, as the Southern gentleman once remarked of the Southern aristocracy, "makin' them any more." The man, after a vain quest, returned with a fire extinguisher.

The mate stood speechless, his feet braced the better to withstand the shock. But his outraged intelligence, speechless though it was, did not suffer inertly. He picked up the fire extinguisher with one fell swoop and hurled it—but inaccurately, fortunately—at the vanishing back of the army captain. It was an astoundingly vivid lesson for the hapless greenhorns who witnessed it.

During the first four days, according to Mulroy's unofficial log, the most vexing difficulty grew out of the blunders of the untrained helmsmen. It seems that no matter how carefully they were taught to steer, the ship would invariably slide off the course. Howls emerged from the boiler room with increasing vigor. "If they don't stop steering figure '8's'," they clamored, "we won't have coal enough to carry us across the ocean." And the situation was to bring upon the

hapless man at the wheel the full brunt of Captain Brennan's highly picturesque criticism.

One afternoon, the army man was ordered to fix a window on the bridge. There being no hammer, he borrowed a monkey wrench from Mulroy, and joyfully went to his task. And, to free his hands, he dropped the wrench into his blouse until it was needed. Immediately the helmsman began to have trouble. The compass needle behaved with wretched abandonment, swinging abruptly to port and then to starboard as the energetic captain moved about the cabin.

Confounded by the erratic stabs of the ship, Skipper Brennan came storming into the cabin. "What's this?" he spluttered. "What the hell is going on here?"

The offender had no idea what was going on. Having no interest in the navigational problems that distressed them so, he went about his work. He moved behind the helmsman to the starboard side; and the compass followed him faithfully. A moment later he moved back again, and like a docile dog, the needle reversed itself. Then a glimmer of suspicion shot through the skipper's harassed brain.

"By any chance," he asked, his lips compressed, "does anybody here carry a hammer in his pocket?"

The man, who was swabbing a window, overheard him and looked up.

"If you want to drive a nail or something," he suggested innocently, "you might use this." He reached into his blouse and drew forth the monkey wrench. Again, his extraordinary ability to gather speed from a cold start outdistanced the punitive projectile. Captain Brennan, they tell me, was positively distressed. It was the first time in many years of nautical experience that his throwing arm had so miserably failed him.

These were distressing incidents, when one considers how seriously Brennan and Byrd were working to get the most speed and efficiency out of the old ship; and the greenness of the crew, as a whole, was a source of unending complications. Yet to the credit of all, it must be said that the *Chantier* and its crew came through marvelously well. Millionaire coal passers sweated prodigiously below the decks, matching shovelfuls with men who, through practice, pitched coal by reflex. And, with throttle down, the *Chantier* swung ahead and toward its goal at a steady clip of eleven knots, day and night.

The weather was far from auspicious. In the log is recorded repeatedly . . . "It rained all day, seas rough, head winds." There were few moments of rest for any. "All hands transferred coal from No. 4 hold to side bunkers." . . . "Friday, 13th: All hands transferred coal."

Then, via wireless, came the news that Amundsen and Ellsworth had left London by steamer and were racing to meet the *Norge,* which was to leave Italy, stopping at Leningrad, at King's Bay. The race was on!

"Come on!" was the word snarled into the boiler rooms. Backs bent lower; the tempo increased; the fires leaped higher . . . and Mulroy, chuckling to himself, squeezed another knot out of the old tub. Seasickness was prevalent, but there was no sick bay for the weary and the distressed. There was too much work to be done.

On Sunday the 25th, with a stiff wind pressing against the bow, they stood off Trondhjem, Norway, stopped long enough to drop Malcolm Hansen, naval radio engineer, who had stowed away and was ordered recalled, and put out to sea at midnight. For the first time, too, they met the midnight sun, and it created a

most profound sensation. There were two hours of luminous twilight, and at one o'clock in the morning the sun strode high into the heavens, and the crew for hours gazed at it in wonderment.

"It is weird and beautiful," Mulroy records in his log, "and it is bright as daylight."

The *Chantier* steams at top speed along the picturesque Norwegian coast. The farther north they go, the brighter becomes the sun, and the twilight thins out and becomes almost translucent. The men find it almost impossible to sleep. Byrd and Bennett, still making last-minute preparations, spend most of their time in the cabin. Four days ago, the coldness increased perceptibly. It was almost like running headlong into a wall of frozen air. The men were given warmer clothing.

In Mulroy's log is this significant paragraph:

"I talked with the Commander to-day and he told me that he will fly to the South Pole this winter, if he is able to get away in time. He said that he and Bennett have made their plans. What an amazing man! He said it as carelessly as if he were planning a trip to Hoboken. I asked if I might go with him, and he said yes."

Just after three o'clock on the afternoon of Thursday, April 29, with the thermometer dallying at zero, the *Chantier* nudged its way through the ice floes and poked its nose into King's Bay's funnel-like channel. A thin column of smoke from a shack so far away it seemed no more than a speck against the whiteness assured the explorers that there was life. A vigorous Yankee cheer split the silence, and the anchor chain rattled out with a great deal of ceremony.

CHAPTER VIII

BYRD FLIES TO THE NORTH POLE

IT was on the snow-terraced slopes of King's Bay that Byrd fought and won his greatest battle. To those who are inclined to measure accomplishment in terms of italics—in terms of the spectacular—the two weeks or so that he and his shipmates spent in the frozen bowl, before the flight to the Pole itself, may not have seemed to contain particularly stirring condiments. Five thousand miles from the scene, the action resolved itself into a series of mishaps, delays and *contretemps*. In many quarters, for a time, there was frank doubt that Byrd would ever get off and away to the Pole successfully.

He was meeting and solving a thousand unanticipated difficulties. He was abandoning preconceived plans and boldly undertaking new ones. Three times he was to poise unwilling over the brink of disaster. And, finally, in utter desperation, but with cold calculation, he was to stake everything on a single toss, and win as boldly. It was struggle of the most trying kind. But he and Bennett and the stout-hearted men about them, recognizing the challenge, responded with a zestfulness that demolished every barrier, and provided posterity with one of the most brilliant flights on the record books.

The first challenge lay in the squat, slate-colored body of a Norwegian gunboat, tied up at the only dock in the harbor. Months before, fearful that some such difficulty like this might arise, Byrd had cabled the

authorities and learned he would have no difficulty in mooring the *Chantier* at the dock and unloading the *Josephine Ford* there. But there was no smoke curling from the stacks of the man-o'-war; her boilers were cold, and workmen were scurrying about her.

Considerably nettled, Byrd and Bennett ordered a landing crew and went ashore. They politely asked for the use of the dock. Could not the gunboat be moved for a few hours while they unloaded their heavy plane? It was most urgent. How else could they land it? The bay was chock-full of floating ice, with a narrow black ribbon of open water running out to the sea. Surely the gunboat could be anchored there a moment?

The Norwegians were most gracious and understanding, but firm. The request could not be granted. Could not the Americans see that the gunboat was laid up for repairs and coal? It would be dangerous to move the ship into the bay, when a sudden shift of the wind might swing the full weight of the ice pack against it. Only the other day it barely escaped destruction from the same cause.

Byrd listened in amazement. He thanked them most graciously. He turned on his heel, and hastened back to the whaleboat. In his usually mild eyes there was fire; and his orders had a crispness to them. "Row like hell," he told the oarsmen. Scarcely waiting for the small boat to reach the side of the *Chantier,* he vaulted up the ladder, Bennett following at his heels. A council of war was called in his cabin, and the officers gathered about his table.

"We can't obtain use of the dock," Byrd snapped out. "But we can land the plane. It is dangerous, but it can be done. Listen!"

Talking rapidly, he sketched his plan. How many whaleboats (lifeboats) were there? Four. Very

Wide World Photos

One of the most perilous moments in Byrd's career was the landing of his North Pole plane by raft through the polar ice.

P. and A. Photos

Amundsen congratulates Byrd on his successful flight to the Pole. Left to right: Amundsen, Byrd, Bennett, Ellsworth.

well, lash them together into a raft, load the *Josephine Ford* on it, attach the wing, and row it ashore!

It was audacious, and the others fairly gasped. Row a clumsy raft through a mile of floating jagged ice, dangerous enough in itself, but triply hazardous because of the body-bending winds they had already learned sweep unexpectedly out of the North! And then hoist a three-ton plane over the ten-foot precipice of ice at the shore!

"It can't be done!" answered one of the officers. "You're taking a terrible chance. A bit of wind, a single ice floe—pouf! good-by plane and expedition."

Byrd eyed him smilingly. "It can be done," he answered without a trace of irritation. "We're going to do it right now." Bennett nodded his head, and said nothing. He recognized it was the only alternative.

All hands were mustered out in the emergency; the whaleboats were dropped into the water beside the ship and "Chips" Gould, the carpenter, grabbed his saws and hammers and prepared to make his raft. Some time before dawn it was ready. The *Chantier* was then anchored in the middle of the channel, five miles wide between the headlands, and it lay nearly a mile from the shore.

The little Curtiss *Oriole,* its bright orange fuselage and yellow wing standing out in bright contrast against the whiteness, was at once lowered upon the raft, and carefully guided to the shore. It was snowing fiercely; at times the men in the boat could scarcely see the shore. Meanwhile another group of men had laboriously chiseled with ax and shovel a six-hundred-foot runway through the solid precipice of ice on the shore. It ran from the water's edge well up toward the shore.

Byrd, after superintending the landing of the little plane, ordered the raft back to the ship for the Fokker. It took almost two hours to navigate the clumsy com-

posite through the shifting ice. Preparations were made at once to lower the fuselage to the platform on the raft. When this was accomplished, the crane reached down into the hold and plucked forth the seventy-four-foot wing.

And then a sixty-mile-an-hour gale broke like a thunderclap from clear skies, hitting with such vigor that the ship lurched drunkenly. It caught the wing with frightful impact and nearly wrenched it from the derrick. The crew came scrambling from every part of the ship, and by sheer force of muscle pulled the wing to the deck and secured it with ropes. Then they turned their attention to the raft and its precious cargo, which the action of the wind and waves was slamming against the iron sides of the ship and which was in dire danger of being demolished by the suddenly released ice floes.

With great difficulty the raft was towed to the stern, where the bulk of the ship protected it most, and for twelve long hours, while the storm raged with undiminishing intensity, the men held it safely in position, staving off the thrusts of ice and keeping the boats afloat. Time and time again, when a change in the wind would snap the cables so tautly they fairly sung, there was real fear that the raft would break up. But the drenched and shivering men who kept vigil aboard her did not give up; when the storm swept out of the bay as swiftly as it had come, the raft and the fuselage were intact.

There was no rest for exhausted men. At once the raft was towed around, the fuselage attached and the weary pull to shore begun. Inasmuch as the fierceness of the storm had broken up the solid sheath of ice, there was much loose ice floating in the path. The Norwegian dispatch boat was asked to break open a path for them, but the captain was compelled to decline.

He was afraid his craft would ground on the shallow shoals. More, he frankly expressed the belief that Commander Byrd was about to do a very risky thing.

"Go out and break up the ice," Byrd ordered half a dozen men. They did, and as they opened up a narrow crack of clear water the raft bearing the *Josephine Ford* faltered behind them. Once a huge berg, carried before the wind, bore down on them, and Byrd sent out a crew to intercept it. A charge of dynamite blasted it into innocuous fragments. Few of the men knew how to row, and half a dozen times, before the more expert men could back water, the greenhorns, misinterpreting Byrd's nautical commands, brought them perilously close to jagged ice.

There was more than relief in the hearts of Byrd and Bennett when finally the craft struck against the shore. There was something approaching pride. For his mad gesture had succeeded. He had chanced everything, and had won.

From the crew of the gunboat, who lined its decks, came a throaty cheer in appreciation of a task well done; and a moment later its musicians, hastily assembled, played the "Star-spangled Banner." It was indeed a good omen, and Byrd felt within himself a strange confidence.

Difficult as was the marine trip of the plane, the landing of it was scarcely less so. No less than four hours of unmitigated effort were necessary to lift it from the raft and pull it up the slope to the shore. Of course, they had no machinery or tractors to help them; it must be done by brute strength—by "muscle grease," in the words of Tom Mulroy—aided by block and tackle. But at last it was done; and Byrd's chosen plane, the *Josephine Ford,* at last had laid its rubber wheels upon the slopes from which it was to make its spectacular dash.

The citizenry of this desolate spot—in the winter-time, under usual conditions, it numbered less than a dozen—came down from the hillside to see the monster plane. Never before had they seen a three-motored flying machine, and it fascinated them. In the crowd, too, were a dozen members of the Amundsen-Ellsworth expedition, who were engaged in preparing for the arrival of the big dirigible. Amundsen and Ellsworth were in charge, and they joyfully welcomed Byrd, their friend. Byrd introduced his flying officers —Bennett and Noville—and the "competitors" strolled off to a cabin for a pleasant talk.

No stranger conference was ever held in that northern outpost of civilization, which three hundred years before echoed to the shouts of Dutch, British, French and Scandinavian sailing-men. Fate had transported them here with the parallel objectives of demonstrating the feasibility of polar exploration by aircraft. The one group would embark in a dirigible, convinced it was the logical craft; the other in the airplane, for the same reason. Fate, too, had decreed that their departures should almost synchronize. Yet each man—Byrd and Bennett, Amundsen and Ellsworth—affably, but not directly, impugned the idea of competition.

"We have no fixed time of departure," declared Amundsen. "We hope to start soon after the *Norge* arrives."

"Nor have we," answered Byrd. "As soon as the Fokker has been tested, and the weather is good, we shall go."

Amundsen, his bronzed face smiling, lifted his glass. "To your health, Byrd, and the success I know will come to you."

They drank deeply, and Byrd rose:

"And to you, Captain Amundsen, and your splendid

colleague, Ellsworth, I wish a pleasant voyage and the brilliant accomplishments I know will be yours."

The glasses tinkled again. There were promises of mutual assistance; but not once did the determination in the heart of each man to be the first to fly across the Pole find voice. So deeply was it understood, that it wasn't necessary. They were essentially sportsmen, each conceding the other fair play, but rigidly bound to achievement of their own objectives.

Meanwhile the crew had hauled the *Josephine Ford* to the crest of a gentle slope about a mile from the shore. It was arduous work, and the temperature was at zero. No one thought of sleep. A dug-out was cut into the solid ice, and a lean-to was built to protect the workmen while resting. A field kitchen was set up in the ice, and a hundred tons of supplies, gasoline and oil, were ferried from the ship, pulled up the slope and stored on the ice.

For Byrd, Noville, Bennett and Doc Kinkade there was little sleep. The midnight sun enabled twenty-two hours of work a day, and the rarefied air filled the men with strange energy. On May 3, Kinkade stepped away from the singing motors, turned to Commander Byrd and said:

"She's O.K."

Bennett and Byrd hopped in; the pilot gave it the gun, and the *Josephine Ford* shot down the slope. Then the motors faded into silence, and the plane skidded to a halt. A landing strut had broken, a crash averted by the narrowest of margins.

All through the night, the carpenter and Mulroy worked repairing the strut and strengthening the skis. It was clear that the skis, in their present shape, could not withstand the strain. The struts were made stronger.

The next day Byrd and Bennett made another at-

tempt. Halfway down the slope the left ski stubbed against a hummock, the plane pitched abruptly and dug its nose, with a great screaming of motors, into a soft snowbank. The men on the hill watched with sinking hearts.

Byrd was out of the plane first, examining the damage. He worked swiftly, impatiently. Then he turned to Bennett with joy in his face.

"Holy Mose, nothing damaged at all beyond the skis!"

While his crew dug the big plane out of the snowbank, a strapping young man, with the blue eyes and the flaxen hair of a Norwegian, strolled across the plain and humbly introduced himself.

"My name is Balchen," he said, "and I'm connected with the Amundsen-Ellsworth expedition. I've flown a lot around here and I came over to see if I could help you."

Byrd looked at the shattered runner.

"We've used a mixture of paraffin and resin on the runners," said the Norwegian, "and found it very effective. You see, about this time of the year, when the snow begins to melt, the friction is greater. If you use this mixture, I don't think you'll have so much trouble."

It was Bernt Balchen, twenty-five-year-old Norwegian naval flying officer, a calm, confident young man, who, though he did not realize it then, was to play an important part in Byrd's life. Then he was deferential, eager to be of assistance to this American who had come so far. Even so, the outlook was not encouraging. With no sort of a load at all, the Fokker had been unable to get off the snow. What chance did it have with a full load? The extra supplies of skis had been exhausted by the crashes; Gould and Mulroy, lacking

other resources, were compelled to recreate them from the wreckage and a set of oars.

But Byrd had profited by his mishaps. He set the men at work building a runway from the crest of the hill almost to the tongue of the bay, removing the bumps that had caused the terrific shocks before. By six o'clock the next afternoon, Bennett was ready for another attempt. There was no denying the seriousness of the situation. Another failure, and there might be nothing to reclaim.

Lunging under full throttle, the *Josephine Ford* swung down the new runway, kicked up a flurry of snow and long before it passed the halfway mark nosed upwards and soared into its natural element. Bennett and Lieutenant Noville, who was with him, put it through a most intensive two-hour test, and then the pilot brought it down gracefully. Bennett met Byrd with radiant eyes. "It's fine," he told him. "Load it up, and let's go."

That night the two men decided to abandon the idea of the intermediate base at Cape Morris Jessup. The ease with which the Fokker had risen indicated it could easily carry enough fuel for a nonstop flight to the Pole from King's Bay. There was no need of the precautionary base. Why not do it in one jump?

The next day—the 6th—the Fokker stood on the lip of the precipice, fuel enough for twenty-two hours in its tanks. The weather, while still retaining traces of fogginess and changeability, was unmistakably improving. The cold was diminishing and the thermometer showed ten degrees above zero.

Whatever ideas Byrd might have had for a take-off the next day were dissipated in the morning. Shortly after ten o'clock the silence of the bay was alive with a throbbing, exciting clamor; then across the hills to the south stole a great cigar-shaped vessel, moving with

confident majesty. It was the *Norge!* The Americans rushed to the huge hangar on the hill, just behind their runway, to see the giant landed.

That night the two ships were in fretful anchorage not two hundred yards apart; and whatever advantage Byrd might have had by his early arrival had become, through the series of misfortunes, no better than an even break. That night, too, his men worked at high speed, checking the plane and instruments.

Thirty minutes after midnight, on the 8th, Byrd and Bennett boarded the plane. Haines, the meteorologist, had said the weather was good. There was little ceremony, although the Italians, Swedes and Norwegians on the Amundsen-Ellsworth expedition, came out to see them start. The midnight sun cast a rare brilliancy over the valley and there was a touch of spring in the air.

The motors had been heated, and Kinkade stepped back, without a word. His was the responsibility of the motors—an almost ultimate responsibility. He waved his hand. Bennett nudged the throttles, and the Fokker burst down the hill. But it obviously lacked speed. Three hundred feet down it lifted savagely from the slope and banged down again; at full speed it continued headlong toward the bay, spread flat and uninvitingly before it, its sullen waters filled with dangerous growlers.

Again the plane struggled to rise . . . but no. Emerging for a split-second from its self-created blizzard it lurched drunkenly to the side, fluttered and then slipped awkwardly into a huge snowbank. The clamor of motor in the hills was sucked into silence; and to the little group of watchers on the runway it seemed no less than a final silence. Not daring to hope, they rushed down the hill, to find Byrd and Bennett already plowing under the plane.

The gods who watch over planes—and surely this new department must have been created in Olympus—had been judicious. Beyond a straining of the skis, the plane had escaped damage!!

But the investigation disclosed an extraordinary thing. Loaded as it was to the last thin rim of safety, the plane was found to contain no less than two hundred pounds or so of stuff that Byrd and Bennett had not calculated upon—flags, pictures, trinkets, hats, coats that the crew had smuggled aboard to reclaim later and present to admiring friends as trophies of the first aerial crossing of the Pole. Only a few hundred pounds, but by such a narrow margin did this $150,000 expedition, not to mention the human lives involved, tremble on the last boundary of safety.

The stuff was thrown out on the snow, as were five hundred gallons of gasoline. Bennett, drawn and thin from lack of sleep, would not wait for the men to drag the plane back to the starting position.

"Damn it, I'll taxi up," he shouted. He did.

Byrd remained long enough to give a few final orders, and then returned to the ship for as much sleep as he could get. In thirty-six hours, he had been to bed but once, and then only for a cat nap. Bennett, whose fighting spirit had been aroused, would not leave the scene of action. He curled up in the fuselage and slept, undisturbed by the racket of the men working about him.

A hundred men toiled inside the half-open hangar—it really was nothing more than two curving walls—that housed the *Norge*. The word crept across the ice that the *Norge* was ready to leave. Excitement reached a high pitch in both camps, even while the leaders, who avoided all impression of competition, remained aloof from it.

Midnight came. Half an hour later, Mulroy tapped

Bennett on the shoulder. "All ready," he said quietly. Meanwhile another runner was en route to the ship, to awaken Byrd. And fifty minutes later Byrd was back, after having risked life and limb in what was probably the fastest rowboat ride ever undertaken through the ice-laden bay.

He was all eagerness when he came up the hill, running as fast as he could.

"Everything ready?" he asked. The crew individually submitted reports. Haines, the weather man, told that the immediate outlook was splendid. What he would meet over the polar seas, of course, was conjectural.

Mulroy stod waiting behind the plane, an ax in his hand, waiting to cut the rope that lashed it to a stake buried in the ice. Men pressed up to shake hands, while the two flyers tugged at their flying suits; the motors were thrumming sweetly. Bennett jumped in first, and Byrd followed a moment later. From the cabin they waved cheerfully. The motors responded to the throttle, and the propellers washed up a great storm of snow particles behind.

At 1:58 o'clock A.M., Mulroy's ax fell effectively upon the rope, and the Fokker leaped forward.

Twenty seconds later, it leaped clear of the runway and headed across the bay in a broad, arching rise that carried it into the brilliant sunlight. The tumult of its going fell away; and a few minutes later, as a little black speck pushed into the northern skies, a great hush fell over the valley. It was awesome, almost like that hush one finds in European cathedrals. And Byrd's men, left inarticulate by the sudden cessation of action and clamor, watched the speck until it disappeared.

Two men in a five-ton flying machine hurtling one hundred miles an hour toward a non-dimensional point

that had guided navigators before Columbus; a point enfolded by floating seas, pack ice, and a drifting, strangling mist that shrouded it through the centuries, had closed mercilessly about the hopes of a thousand men. With wide opened eyes, Byrd, the idealist and scientist, is speeding into an unknown that opens before him more than six thousand square miles of space every hour. And the thin, angular Bennett, more engrossed in his engines and throttles than anything else, sits beside him with half-shut eyes, listening to the important orchestration of two thousand parts of motor, watching his compasses.

The Fokker is a traveling laboratory, machine shop and explorational mission. In the fuselage, behind the great fuel tanks, is a long sled, the gift of Amundsen. There is a ten weeks' supply of food, highly concentrated stuff, to be loaded on it if motors should fail, if they should crash for any one of a number of causes. There is, too, a spare tent, rifles, special clothing, everything that would make the walk home humanly possible.

But Byrd, checking over this stuff half-intuitively, rather hopes that it will not be necessary to walk. Through his mind flits a recollection of the awful disappearance of Andree, the first man to try to reach the Pole by air, who quit King's Bay three decades before, and vanished. It is not a pleasant thing to contemplate, this idea of spending the Arctic night on a sea of ice drifting across the Pole, when slogging feet are to try to carry you in the opposite direction.

Motors . . . motors . . . motors. The steel pistons that give wings to men's imagination must not fail!

Skilfully accumulating altitude, Bennett neads the Fokker due north. The familiar mountainous topography of Spitzbergen sweeps majestically underneath,

rugged, wild, torn and churned as if by the angry wheels of mighty chariots. At two thousand feet Bennett halts the climb and levels off the plane for a straight flight to the Pole.

An hour passes, and they cut athwart the last barrier of land and strike across the Arctic pack. Although it is not long after midnight, the sun is bright as day; and a hundred miles ahead, brilliantly clear, the pack ice stretches its flatness toward a misty horizon . . . a vast grayish raft, showing an irregular black lead here and there. And as the Fokker swings on, its motors chortling in unison, Byrd jots in his log:

"I cannot but marvel at the superiority of the airplane. To think that men toiled for years over this ice, a few hard-won miles a day; and we travel luxuriously a hundred miles an hour. How motors have changed the burdens of man!"

But there is little opportunity for philosophical thought. The two men face a terrific problem in navigation. From now on mathematics will be as important as motors. Byrd checks over his instruments. In the tail of the plane, where it is comparatively free from local magnetism (that is, the magnetic influence from metallic parts of the plane itself) is the earth inductor compass. At his right hand is the famous sun compass devised for his first polar flight by Alfred Bumstead; and beside these his sextant and master compasses.

A great navigator, Byrd is acutely aware of the navigational difficulties inherent in polar exploration, and particularly so at the high speed required by an airplane. For one thing, he knows that the magnetic compass is inclined to be sluggish in certain parts of the north, where the directive force of the earth's magnetism is lessened, and therefore susceptible to troublesome deviation. He must calculate the drift from the

normal caused by the wind. There are countless technical problems, each of them freighted with tremendous possibilities.

He must know his position to the last fraction of a mile. Otherwise, with engines popping for want of fuel, a forced landing in the ice, hopelessly lost. Indeed, as they slide onward, the angular shadow of the Fokker trailing miles behind them on the ice, rippling over huge, distorted pressure ridges and hummocks, he wonders if they will find the rolling, confusing mist that Peary found at the Pole; if so, he has his work cut out for him. Airplane navigation in fog is difficult enough; at the Pole it must amount, he realizes, almost to an impossibility.

What an extraordinarily stable platform the airplane gives these modern observers of the Arctic pack. The air is clear and steady. There is little of the pitching they encountered in the rougher air in their own country. The thermometers in the cabin show a reading of zero, and they are comfortably warm in their reindeer and polar bear suits.

They are steering a straight course between the routes Peary and Nansen followed so laboriously; and the better to view the ice pack Bennett depresses the nose and the Fokker skims along not three hundred feet from the ice. In the drop they watch with mingled emotions the extraordinary changes in the panorama. How clear and flat the sweep of ice seemed from half a mile above! A perfect landing field for an airplane. But the hurried descent works a bewildering alchemy. The artificial flatness gives way to contorted architecture . . . great pressure ridges, twenty to thirty feet high, symbols of the travail of the moving ice fields that meet, clash and crush irresistibly . . . vast stretches of a mobile frozen sea, decades old, extending in rafted, hummocky formation

as far as the eye can see, the chaos of which is visible evidence of the tremendous physical power of the Arctic pack and the eternal conflict born of shifting currents and the crush of new ice against the old.

But they notice that it has not yet yielded to the first softening touches of the spring. Occasionally pools glint in hollow depressions in the middle of the raft; the lanes and channels of open water, black as coal, are filled with floating "growlers" (small bergs) that have been torn free from the pack, perhaps by wind, perhaps by the shock of impact from another field.

After absorbed contemplation, Byrd clambers from the cabin into the fuselage, where he has fixed up a navigational compartment. Here is a second set of instruments; a short-wave radio set to be employed in case they should be forced down. Attached to the trapdoor in the roof is a second sun compass. There, too, is a drift-indicator. Every three or four minutes he checks the wind drift, to make certain that Bennett is following the course. At his elbow is an ample chart board, and on this he calculates copiously.

Every now and then, too, he sights the sun with his sextant. It is a most careful system of cross-checking; in this way does he determine where the line of flight actually intersects the fixed lines of position.

From his place under the great wing Byrd can see Bennett bathed in sunlight filtering through the windowed cabin, and over him comes a great feeling of pride for this quiet, imperturbable young man whose slender body houses a singularly brave and confident heart. He moves forward and takes a turn at the controls.

When Bennett again relieves him, Byrd notices that he shows a marked inclination to swing to the right. Byrd warns him, and Bennett brings the plane back. But again it slips off to the right. "You must keep on

your course," Byrd writes on a slip of paper. Thereafter Byrd watches carefully; each calculation shows that Bennett is ranging obliquely from the course he has set, and always to the right.

When Byrd takes his turn at the controls, he compensates for the deviation by swinging to the left. And he compares closely the increasing error indicated by the magnetic compass, as they progress northward, with the reliable sun compass.

"The error, which amounted to eleven degrees after we reached the polar sea," he records, "is now nearly doubled."

What a possibility that offers for fatal error!

They swing swiftly into vast areas that only once before had echoed the pulsing throb of an airplane engine. Somewhere was the open lead in which Amundsen and Ellsworth had landed their flying boats, and fought for twenty-five days to free them. The Pole is only 136 miles away. In a moment they roared tumultuously into areas that had never before been seen by human eyes.

Will they see land—the yet-to-be-discovered land that beckoned Peary, De Long, Nansen and the others? Each is scanning the horizon, alert for evidences of life—a polar bear, birds. There is nothing but the dazzling whiteness; the profusion of pressure ridges, analogous—in Byrd's mind—to the edges of a crazy quilt, telling of a free motion of the ice pack that would be impossible if a continent existed there.

Just as Byrd completes another observation, fixing their position at ninety miles from the Pole; just when he has permitted himself an inward rejoicing of accomplishment, Bennett plucks his sleeve and points to the starboard window. It is flecked with oil. Something is wrong with the wing motor!

Byrd scrambles to the window and sees that the oil

tank has developed a copious leak. The wind wash from the propeller is whipping it against the windows and fuselage, coating them with a heavy film which freezes almost as it strikes. He turns back to Bennett, worry in his eyes. Bennett nods, and cuts the motors to half speed, so that he can be heard.

"That motor," he scrawls on a piece of paper, "is going to stop." His hand is steady.

Byrd is doubtful.

"We'd better make a landing," the pilot writes. "Can't go on like this; we'll burn out the motors. If we land, we've got a chance of fixing it."

Byrd glances at the ice. It looks smooth enough. Then he remembers the chaotic condition of the ice fields they passed. He remembers, too, what happened to Amundsen and Ellsworth, who landed their flying boat in open water, where they have only fragile skis. Oh, no, too many expeditions came to grief because they landed.

"Don't forget what happened to the *PN-9* and the NC-boats when they landed," Byrd bawled in reply. "We'll keep going."

Quite happily Bennett nods in agreement. Now—on with their mission, with disaster lurking in the drenching leak, or shall they wheel about and race for home? Bennett points his finger toward the Pole. Byrd nods, and the plane does not vary from its northward path.

It is a brave decision, carelessly arrived at. Having come this far, they are determined to complete their task. The next hour or two will tell the story. The difference between two or three hundred miles in this desolation is not important—only a trivial distance in an infinity. They exchange smiles, and Bennett turns over the wheel to Byrd.

For the next half hour or so, Byrd's eyes never falter

from the instrument board. If the oil pressure indicator shows a drop, it can mean only one thing . . . a burned out motor, struggling along with terrific gas consumption on the other two and, finally, the forced descent. But the needle holds steadily. Deeply relieved, although not a bit optimistic, he turns over the wheel to Bennett, for the goal for which he has dreamed is actually in sight.

It is not quite nine o'clock as he sights the sun, computes rapidly and then stares into the whiteness. They are at 89° 55.3′. In a few minutes now . . . the Fokker sweeps into the sunlight at reduced speed, seventy-four miles an hour. Tense, as immobile almost as a statue, Byrd bends over his chronometer, watching the second hands.

Nine o'clock. At 9:03 o'clock he straightens up, taps Bennett's shoulder and shouts: "The Pole!" Yet he cannot permit himself more than momentary satisfaction. If they are to get back to Spitzbergen, he must confirm his calculations. Here every direction is south; a most minute error means hundreds of miles from their objective. He orders Bennett to maneuver sharply to the right, and then takes quick observations; then he orders him to wheel about, and he takes two more; then, using the Pole as a center, he has the Fokker maneuvered in a great circle four miles in diameter.

It is thrilling; it is exhilarating. And during those few minutes, while they pivot on the great wing above the spot that only Peary accomplished, they forget the leaking oil tank . . . forget everything except the wonderment that comes from having stood face to face with the unknown.

Perhaps it is a desolate spot. Perhaps it does seem almost folly that men should stand ready to sacrifice so much, simply to contemplate the emptiest spot on

the globe. From his lofty place Byrd for the first time in his life feels the restless longings within him suddenly extinguished. He was poised over immense solitude, and the infinite wastes stretching into the horizon so easily might engulf the mightiest human urge, and leave no trace. Here is a world that never would feel the trampling feet of armies; nor hear the din of factories; nor respond to the ennoblements of architecture. It was Nature in a fierce, suspended repose—in far-flung chaos that must never yield to humanly conceived order.

Down below Peary planted his flags, but seventeen Arctic nights and the ceaseless flux of currents have erased all vestiges of his coming. Throughout the hundred and twenty miles of vision from three thousand feet of altitude they see nothing but the seemingly fixed and frozen sea, here and there interspersed with open leads. Toward the horizon it loses definiteness and merges into bluish-gray mist.

There is no land at the Pole. The vast corrugations and telescopings in the ice sea show that. What Peary found, so Byrd finds. He shall return without the joy of discovering the chimerical continent of the Arctic; but in his heart he has found something greater and as lasting.

For five minutes the Fokker riots in the sky. Halfway around the circle they lose a whole day in time; completing the circle they almost instantly recovered it. They make an astonishing flight around the world in three minutes. One second, without visible change in direction, they hurtle north, and the next they hurtle south. "An instant," he writes, "can be an age; an age an instant." While Bennett steadies the plane in a broad, sweeping bank, Byrd snaps a motion picture of the Pole. It is 9:15 o'clock, and they have been over

the Pole something like thirteen minutes. Bennett smiles again and shouts: "Let's go back."

Byrd is more than willing. It is already confusing enough to his orderly mind in this chaos of time and space, where the intelligence of an Einstein must be required to fix their kaleidoscopic movements. Now he must get back—must hit the little island of Spitzbergen right on the nose. Then, just as Bennett banks abruptly, Byrd's sextant slides from the chart table and crashes to the floor as he futilely reaches to save it. It is hopelessly injured. His most important navigational guide is gone! He must depend upon dead-reckoning.

But Byrd is resourceful. At the moment when he estimates the sun should be crossing the 15th meridian, along which he has laid his course, he orders Bennett to steady the plane and head it directly into the sun. He notices that the shadow falls straight athwart the middle of the hand of the compass, proof that he is directly on the meridian.

"We'll hit at Grey Hook," Byrd writes on a note. Grey Hook is a tiny promotory on the northwest coast of Spitzbergen. Bennett does not hear; the continuous roar of the motors has deafened him, but he smiles encouragingly. So they begin the long dash home, with the motor still spurting oil, and the vague fear in their hearts that it will stop and not a little wonderment over the fact that it had not already done so.

Byrd studies the leak idly. He is conscious of no sense of helplessness. To the contrary, it rather fascinates him. Upon such trivial things—in this case probably the loss of a rivet—do the lives of men depend. A skyscraper might crumple in time for an improperly placed rivet. But here, half a mile above the polar ice, it does seem such a futile, inconsequential thing. Then through his musing there suddenly breaks

the realization that the leak is stopped. He grabs Bennett by the arm.

The pilot looks out for a moment, and grins in agreement. It is almost beyond comprehension. The oil gage shows ample pressure. There must have been an extra quantity of lubrication in the tank. They hurtle toward home with the motor at nearly full throttle, a gentle tail wind nudging them along. The air speed indicator shows a speed of a hundred and ten miles an hour, and the altitude varies from twelve hundred feet or so to half a mile, depending upon wind currents and the advantages to be gained thereof. And Byrd regrets the destruction of the sextant; these last observations would be technically important.

Both are dead tired. The inevitable reaction has set in; the thrill of achievement has come and gone, and the sleepless nights demand compensation. Every half hour Byrd relieves Bennett at the controls, and the lanky pilot rubs his eyes and flexes his arms. He smiles wearily. The brilliant sun is soporific.

A steel-gray shoulder of land bulks vaguely seventy miles in the foreground, and dead ahead. It is Grey Hook, and Byrd has hit it on the nose. Bennett stares in amazement at this demonstration of "dead reckoning." There can be no doubt of their having reached the Pole. Otherwise they never could have reached Grey Hook. He claps Byrd on the shoulder.

Now they bear sharply to the right. King's Bay lies down the coast, behind the gold-flecked mountains that are slowly precipitated out of the mist as they approach. At 4:30 o'clock, the Fokker crests the rugged bluffs overhanging the fishing village, spins in a wide turn and comes to land. The first flight to the North Pole has been made; the second expedition in four hundred years has succeeded; and Byrd and Ben-

nett, thinking only of sleep and rest, tumble out on the snow.

Amundsen dashes across the snow, and is among the first to reach Byrd. There are tears in his eyes as he greets the man who beat him—tears that choke off words. He embraces the American, kisses him on both cheeks, and helps him down the slope. Thus closes one of the most glorious days in Byrd's career. A day rich in knowledge of unknown things and of hidden things within himself. He is drowsy before he reaches the *Chantier.* And that brilliant reporter, Russell Owen, of the *New York Times,* is flashing the news to the world that Byrd has achieved his goal and fought his struggle in pure, cloudless skies.

That night there was another party aboard the *Chantier,* and it was as merry and gay a one as that before the take-off. The gallant and sporting Amundsen and Ellsworth once more toasted him vivaciously, This time for having succeeded.

But two years later Byrd was to remember it differently; for, two years later, the *Italia,* under command of General Nobile, staggered to the ice on a return flight from the Pole and contributed one of the most ghastly tragedies to the history of polar exploration. Nearly a dozen of the men who dined with Byrd that night were to perish. And, above all, he was to remember the prophetic words of Amundsen, as they stood at midnight on the deck of the *Chantier,* and gazed out upon the waters dancing under the midnight sun:

"To-morrow the *Norge* starts," he said, "and, I think, it is my last exploration. I am getting old, and I want to spend the rest of my days in my old country home, in the ice and snow I love. Once, I felt that I should like to die, when the time came, in the field. But now I seem to want peace and rest. You have

done well. In a few hours you have succeeded where my years of effort ended in failure."

He shook hands warmly, and clambered down the steps, a broad-shouldered man, with the imprint of the Arctic wind deep in his face and an illimitable fortitude in his calm eyes. At 10 A.M., on May 11, the *Norge* lifted its stubby nose into clear skies, its great sides plump and flat in the morning sun, and surged toward the Pole with a great beating of propellers, starting a flight that was to end three days later at Point Barrow, Alaska, on the other side of the world. Before he left Byrd gave Ellsworth all his polar equipment—his sun-compass, gloves, bear-skin trousers, shoes and jacket. When the *Norge* landed in Alaska, the craftsman who had made the shoes and gloves for Byrd recognized them on Ellsworth, and his astonishment knew no bounds. To-day, they are in a New York museum.

As a tribute to Amundsen and Ellsworth, Bennett and Byrd escorted the *Norge* out of Spitzbergen, waggled the wings in a gesture of farewell, and turned back to prepare for their own departure. There remained only the task of dismantling the camp and starting for home. Congratulatory wires were pouring in from all parts of the world; from Presidents, dictators and Governors. Like the man who made a good mouse trap, Byrd found that the world will beat a path, if only by radio, to the door of the explorer who flies to the North Pole.

Bad weather held them up for a few days and, during the lull, Byrd, Bennett, Kinkade and Mulroy, in response to a request from the local governor, flew fifty miles up the coast in search of three trappers who had been missing all winter, and who were believed to be running short of food. The flyers spotted them camped in the lee of a ridge, smoke rising cheerfully

from a huge fire. Bennett circled low and the others parachuted a supply of pemmican and canned food, to which was attached a note suggesting that the trappers wave if everything was all right. The trappers recovered the food and signaled they were in no distress, and the *Josephine Ford* returned.

Thursday, May 20, the *Chantier* steamed out of King's Bay, while the ground crew of the *Norge,* who were also preparing to follow, and the handful of citizens, who had grown to be quite fond of these Americans, cheered them off.

Byrd was off to London . . . then to New York.

CHAPTER IX

MEDALS, AND SPEECHES, AND BALLYHOO

WHILE the slow-moving *Chantier* slogged through heavy seas to London, Europe and the United States prepared for the coming of the pioneers. Not even the fact that the cumbersome *Norge* had retraced the Fokker's path to the North Pole and then spectacularly proceeded beyond, over and into the heretofore uncrossed polar seas that rim Alaska, spending in all three days and three nights cruising over the top of the world, seemed to diminish in any way the excitement aroused by Byrd's flight. To the contrary, it was apparently accentuated. Who were these daring young Americans, novices (so far as the rest of the world knew) at Arctic exploration, who had beaten the resourceful and experienced Amundsen?

Awaiting the answer, the world turned to a study of the sudden wonders wrought by aircraft. Few had anticipated a successful outcome for both expeditions. A large question mark had preceded Byrd's. Frank doubt overshadowed Amundsen's. Whereas the Fokker was conceded a fifty-fifty chance of returning safely to its base, only the opportunists backed the *Norge*. It seemed so pitifully small (it was only one-seventh the size of the Zeppelin the Germans had conceived as practical for the same flight) that few believed it could withstand the buffeting of polar winds. Indeed, cartoonists had lampooned it as a toy balloon, contemplated it wrecked on the ice and willfully pro-

jected a huge German dirigible proceeding to its rescue.

Yet within four days, the heavier-than-air and the lighter-than-air craft had tirelessly, seemingly with careless ease, accomplished what centuries of indomitable exploration had barely hinted at. It was easily the most spectacular period in aviation since the Wrights first flew; not even Alcock and Brown's transatlantic flight drew such a responsive note from the public mind. Reading the newspapers during the next weeks after the flights, one had the immediate impression that the door to the last terrestrial unknown had been opened, the last horizon on this earth penetrated.

When the doughty little *Chantier* moved into London, on May 27, having battled heavy seas day after day on the long voyage from Spitzbergen, the wharves ran black with people. Yet Byrd had been amply forewarned. On the trip down, the *Chantier* perambulated through an atmosphere that was alive with congratulatory messages. Newspapers clamored for statements. Cities and Chambers of Commerce insisted upon immediate visits. Jocular Congressmen asked him to bring back a piece of the North Pole, so they could see what it looked like. Indeed, the wireless operator, laying a batch of such radiograms before Byrd, remarked that he expected to see the set suddenly vanish in blue flame, it was so overworked.

The United States and particularly New York was preparing for its first great reception to the newest of pioneers—the aviator! And Byrd and Bennett, aghast at the emotional tide they had unconsciously released, could only wonder at the fact that they had abruptly ceased to be masters of their own destiny and had become actors in a mighty exhibition of showmanship of a nation's making. They could not under-

stand. What they had done was simply in the line of duty.

Then London and six days of fêting, while the cables hummed with clamorous demands from the United States to return as soon as possible. A hundred-thousand-dollar reception awaited them in New York. The President wired his felicitations. The Navy Department hinted a vast honor to be conferred. So please hurry! But the *Chantier* was undergoing minor repairs, and Byrd and his shipmates, as guests of Ambassador Houghton, were whisked into the middle of London's life until it should be ready.

London remembered Byrd. More, the newspapers (even in the British press there is that same local pride we find in this country) carefully pointed out his ancestry and its British background, and recalled him as the American officer of the *ZR-2* disaster. His gentlemanly conduct and modesty won him the nation; had he accepted the invitations that came to him, I daresay he would still be fulfilling them.

Except as a brief social interlude in his life, and as an indication of the roar of the crowd from which he never was quite to escape, the six days in London have little value here. I would, however, like to recount what seems to be the very delightful story of how Byrd went to the Earl of Derby's dinner. That, of course, is one of the jolliest affairs in the London season. It follows the Derby, and it is a most exclusive affair. The King and Queen were guests, and tradition has it that it is the one formal date in the year when the head of the royal house can forget his huge responsibilities and ask for another glass of claret, without causing the Empire to tremble. Byrd, naturally, was invited. In the rush of the day's activities, he forgot all about court clothes.

"Never mind," said the Ambassador, "we'll fix you up."

The process of "fixing up" the aviator was probably the most perplexing task the American Embassy ever undertook. It started as an idea and concluded as a phenomenon. And the young attachés, who dropped all state matters in this major problem, were near prostration before it was concluded.

When Byrd rode out of the Embassy that night, he wore Ambassador Houghton's shoes (three sizes too large, and warily retained to his ankles by rubber bands that had been dyed in ink) a pair of silk stockings (borrowed from a girl stenographer who had been induced to part with them only after the most diplomatic suasion) a pair of breeches borrowed from a footman (who was almost forcibly deprived of them) and a borrowed waistcoat and jacket held together by brass buttons stripped from his uniform.

"Byrd, you look grand. You'll bowl them over," declared Ambassador Houghton, looking upon his handiwork with an almost awed admiration.

"I may not be a social success," Byrd retorted, "but I'll be satisfied if this darned thing only holds together."

The evening passed with only minor crises. Dancing with a duchess, one of the elastics on his shoes suddenly broke and before he could compensate for its loss the shoe came off. But the duchess retrieved it for him, and the incident delighted the party. That night, too, he met the Prince of Wales, whom he liked immensely, and met him the following day by appointment. The Prince, evincing even then more than an ordinary knowledge of aviation, was curious as to his sensations while over the Pole.

"They tell me you're going to fly to the South Pole this winter," the Prince said, just before he left.

"Yes, Bennett and I hope to get started this fall," Byrd answered.

"Cheerio and good luck," bid Prince Edward, "I'll probably meet you again when you come back."

But he was to meet Byrd long before he expected.

Meanwhile Byrd was learning that a reaction, of minor importance, had set in. In certain quarters of the foreign press he learned that doubt was expressed that he had ever reached the Pole. What seemingly was beyond the comprehension of some editors and explorers was the fact that it had only taken Byrd sixteen hours to reach the Pole and return to his base. It did not seem to them logical, despite the known velocity of the Fokker, that the Americans could have circled the Pole and got back.

"We must remain skeptical until more exact information is at hand," a distinguished Danish explorer declared in a Copenhagen newspaper on May 10. "The utmost that Commander Byrd will be able to prove is that the distance he has flown agrees with the known distance between King's Bay and the North Pole.

"At best, he may possibly be able to prove that he was within one hundred kilometers of the Pole."

In Italy, where an inflammable nationalistic press was prone to favor the accomplishment of the *Norge,* because it was under command of General Nobile and because it was of Italian construction, there was some skepticism.

The *Tribuna* editorially placed a question mark about the authenticity of the flight. "We await," the *Tribuna* concluded smugly, "confirmation." And conceding that he did reach the Pole, the *Impero* debated its scientific importance.

"Byrd flew over a zone already visited by explorers," the *Impero* had said, "while the Italian-Norwegian

expedition will visit a huge, unknown zone between the North Pole and North America."

Byrd accepted such criticism with unruffled pleasantry.

"It is natural," he told British pressmen, "that there should be some doubt. After all, the airplane, as an instrument of polar research, is a pioneering vehicle, and radically different from previous means of exploration.

"I can only say that my calculations showed me to be at the Pole. These calculations I shall submit to the National Geographic Society for confirmation."

Still, a most unfortunate misunderstanding was to give impetus to the doubt where it did exist. After Byrd departed from London on June 4, cables from London conveyed the impression that the most eminent Royal Geographic Society had been disappointed because he had failed to accept an invitation to appear before them at a dinner and discuss the flight, inasmuch as he was a member of that body. His European critics immediately construed this as a deliberate avoidance of a possibly embarrassing situation. What they did not realize, and what has never been adequately explained, is that Byrd, with the limited time of his stay in London and the fact that he was entirely in the jurisdiction of a municipal committee that made his engagements, wanted to accept the invitation, but found that his schedule had been so compactly drawn that he did not have the available time. Moreover, he had already met the Society secretary, Arthur R. Hinks, in a private interview and had discussed the flight with him from every angle.

In America, however, not the slightest doubt manifested itself. The nation had accepted the accomplishment without reservations. In the House and Senate, enthusiastic legislators tried immediately to

rush honors for him, but the leaders, "in keeping with precedent," finally succeeded in having them withheld until Byrd submitted his own proof. Far from being any reflection of doubt, this was simply a defense against the establishing of a possibly dangerous precedent.

His pictures were appearing magically in the windows of delicatessen stores and village grocery stores up and down the country. In that broad humanizing that comes with hero worship he ceased to be Lieutenant-Commander Richard E. Byrd; the name "Dick" Byrd became a national symbol, found its place in the rotogravures and headlines. But it was in his own home town, Winchester, that the joy over his success received its most ebullient demonstration.

The day after his return to Spitzbergen, the people called for an immediate celebration. Mayor Ward, in a public proclamation, set aside the day as a holiday, closed the schools and called for a public assembly in the old schoolhouse that evening. Rear Admiral Louis McCoy Nulton, Superintendent of the Naval Academy, was rushed in to deliver the principal address and the enthusiastic meeting came to a close with the adoption of the following cablegram:

"Admiral Nulton led the people of your own town to-night in the Handly Auditorium in congratulating you upon your high accomplishment. We are proud of you, Dick, proud of your success, but prouder still that you are in triumph, as you would have been in defeat, the modest, sportsmanlike gentleman.

"Ten thousand men and women and children here are eager to welcome you to the home whence you started on your clean, capable and courageous career."

And a famous New York clergyman, addressing a huge congregation, lauded the flight as a "spur to religion," as an incentive to "the conquest of the spiritual

Poles." Such are the ramified repercussions of courage!

Thoughts of triumph, of national jubilation, of a merited rest from nerve-exhausting hours, were not in the mind of either Byrd or Bennett on the trip from London to New York. They were already mentally embarked upon new expeditions. It was obvious that the vaguely contemplated expedition to the South Pole was impossible. The nation-wide tour they knew that they could not avoid made that clear. They would be well into the fall before they could settle down to their own work; and they could not very well go into the Antarctic (the seasons are reversed in contrast to the progression in the North Temperate Zone) in midwinter. Therefore, they decided boldly upon another flight.

"We shall make your transatlantic flight next summer," Byrd told Bennett.

"That's okay with me," the pilot replied at once. "I'm in favor of that. This is the time for it."

A characteristic decision. Barely had he averted bankruptcy on the steep slopes of King's Bay; he still technically faced a deficit of some forty thousand dollars. But Byrd plunged at once into plans for his new expedition. It would unquestionably cost a couple of hundred thousand dollars. Whence would it come?

"We shall get it," Byrd answered. Now he was thinking in dual terms—science and good will. Above all, he saw that the time had come to demonstrate to the world that the airplane was capable of crossing the Atlantic. He saw, too, the effects of such a successful flight upon international relations. Communications weld nations together. They bring understanding, sympathy and a quickened exchange of ideas. And surely a debt-ridden and irritated Europe would appreciate the ambassadorial visitation of an American

airplane, the fastest instrument of travel yet devised.

Whether the flight would end in England or Paris, he and Bennett did not then decide. That could wait until later. Byrd had a special fondness for England. Three times in his life it had been kind to him. It would be a jolly idea to repay the courtesy. For the nonce, however, he and Bennett discussed simply the technical side of the flight. They had learned much in common, and their decision was clear cut.

While the *Chantier* plowed stubbornly through resisting storms, somewhat behind schedule, the Navy became impatient. A brilliant reception had been planned in Washington. Delay in arrival would seriously upset the plans. It was suggested that a destroyer be dispatched to meet the old transport on the high seas, to rush Byrd and Bennett to Washington. Would such a plan be satisfactory to him? Byrd sent back an appreciative radio; he would, however, prefer to return with his shipmates, who deserved the same consideration.

On May 22, the *Chantier* passed Nantucket Lightship and, due to the labors of Tom Mulroy and his engine gang, was actually ahead of time. Unrecognized and undetected, the little vessel proceeded on to New York, once barely averting a probably fatal collision with the transoceanic steamer *Majestic*. That night, although New York, which was on the *qui vive* for its arrival, did not realize it, it lay in quiet isolation for five hours off Coney Island. Then some passing motor boat became suspicious, confirmed the name and a newspaper tug came steaming up the bay in no time.

Wednesday, June 23, the most exciting, the most astonishing, the most confusing day in the life of Richard Evelyn Byrd!

From the moment he stepped from the *Chantier*

to the municipal tug *Macom,* New York City's marine welcome mat, Byrd saw the city he had left so quietly, barely two months before, become a mighty engine of topsy-turvy emotionalism. Fire exploded into geysers at his coming. Five hundred river craft, massed in the Narrows, lay like triremes to salute a returning Roman General, and the heavens screamed as if with the throats of ten thousand devils when they cut loose with their whistles. I was there; and to me, a spectator, it seemed as if the atmosphere had suddenly solidified with sound, a huge concrete stratum of sound, clashing, merging, swelling. One was conscious of actual impact. And ashore the heavens disgorged ticker tape, and the skyscrapers lost their sheerness in the fluttering showers, and spilled their hordes of workers in black density upon the sidewalks.

This tumult of sound and movement for two men who had gazed upon the illimitable silence and the immobility of the Pole! Byrd and Bennett, ill at ease, seemingly unable to comprehend that it was directed at them, drew back. Become mechanical, they bewilderedly headed the parade up lower Broadway, up to the City Hall, washed along by the momentum of sound into a chaos of oratory, scrolls, laudations and heaven knows what else. Before the day was over and the harassed editors of morning newspapers were ready to put their papers to bed, in New York at least they had crammed thousands of words of Byrd's doings, down to his most trivial phrase, into the bulk of their news columns. Byrd and Bennett were by no means the only persons who nearly collapsed under the weight of the new found capacity of a nation, conscious of its magnitude in most things, to welcome a modern hero in modern style.

Accompanied by his brothers, his wife and mother, Commander John Rodgers, of Honolulu flight fame,

and Commander Fitzhugh Green, a dear friend and a polar explorer of much renown, Byrd and his pilot quit New York the same afternoon, behind a flying wedge of important personages who cleared the way for them to enter the teeming ramps of Pennsylvania Station. The train ride gave them a short opportunity to recover their breaths. But even as had New York, though perhaps more from awe than physical impact, the reception of the Capital was to leave them breathless.

The ovation reached a tremendous climax in Washington that evening, when he was presented with the Hubbard Gold Medal, the gift of the National Geographic Society, and Bennett was given a special gold medal. Only six other men had received this distinguished decoration—Peary, Amundsen, Stefansson, Shackleton, Gilbert and "Bob" Bartlett—and President Coolidge was called upon to make this most important presentation.

Six thousand people, the flower of the nation's citizenry; distinguished Army and Navy officers; the entire Cabinet and their friends; Senators and Representatives; a host of Ambassadors and Ministers from foreign powers—indeed, all who could obtain the coveted honor pressed into the Washington auditorium to welcome and see these two men who had looked down upon the North Pole. The streets outside were jammed; and when Byrd and Bennett, in uniform, emerged from an automobile, the crowd shoved forward with such avidity that the police were compelled to charge the lines like Cossacks, to protect the pair from actual physical injury.

Tens of thousands of people reached for his hand, clutched at his coat tails. Messenger boys awaited with great handfuls of telegrams. And, finally, he entered the Never Never land of the great hero . . .

the infinite Valhalla of blazing Kleig lights, storming photographers and their voracious camera eyes that never can be sated, of police lines thinly rimming a reservoir of chaos. It opened to him that night, flowed over into the next day, and the next, and the next.

Byrd faced the President and that distinguished body with bewilderment. Never had he spoken to such an important group, nor had he ever expected to. He stood for a moment in the wings, trying to assemble his thoughts, to catch the fleeting, strangling words he must memorize. Bennett's lips worked, his hands clutched at his stiff collar.

"Good God, Dick . . . !"

"Come in at once," ordered a most authoritative gentleman. "The President has arrived."

The auditorium welled up into a column of sound as they entered, embarrassedly. The two sat down. Dr. Gilbert Grosvenor, President of the National Geographic Society, spoke in the restless hush:

"Mr. President, Mrs. Coolidge, members and friends of the National Geographic Society, we have assembled to welcome home and felicitate a member of our Society whose Arctic explorations began under its auspices and who now returns from an achievement that has filled the hearts of all Americans with pride and joy. To him, by unanimous vote, the Board of Trustees of the National Geographic Society, on behalf of 1,050,000 members, have awarded the Hubbard Gold Medal, and to his assistant, also a member of the Society, a gold medal.

"For your information, I would state that the records of his flight, at his request have been examined by a committee of the National Goegraphic Society and found to have been correctly and accurately kept. These records, in the opinion of the committee, sub-

stantiate in every particular the claims of our member that he attained the north apex of the globe by airplane on May 9, 1926."

President Coolidge, smiling slightly, rose and in that calm, nasal Yankee tone he has made famous, spoke as follows:

"Word that the North Pole had been reached by airplane for the first time was flashed around the globe on May 9. An American naval officer had flown over the top of the world. He had attained in a flight of fifteen hours and thirty minutes what Admiral Peary, also a representative of our Navy, achieved, seventeen years before, only after months of travel over the frozen Arctic wastes.

"The thrill following the receipt of this news was shared by every one everywhere. It was a spontaneous tribute to a brave man and a daring deed. We, his countrymen, were particularly proud. This man, with a record of distinguished service in the development of aeronautics, had by his crowning act added luster to the brilliant history of the American Navy.

"In no way could we have had a more striking illustration of the scientific and mechanical progress since the year 1909. Then Peary's trip to the Pole on dog sleds took about two-thirds of a year. He reached his goal on April 6. It was September 6 before news of the achievement reached the outside world.

"The naval officer of 1926, using an American invention, the airplane, winged his way from his base, King's Bay, Spitzbergen, and back again in less than two-thirds of a day; and a few hours later the radio had announced the triumph to the four quarters of the earth. Scientific instruments perfected by this navigator and by a representative of this organization were in no small degree responsible for success.

"We cannot but admire the superb courage of the man willing to set forth on such a great adventure in unexplored realms of the air; but we must not forget, nor fail to appreciate, the vision and persistency which led him ultimately to achieve the dream of his Naval Academy days. He never ceased the effort to prepare himself mentally, scientifically and physically to meet the supreme test. His deed will be but the beginning of scientific exploration considered difficult of achievement before he proved the possibilities of the airplane.

"Lieutenant-Commander Richard Evelyn Byrd, your record as an officer and as a man is illustrious. You have brought things to pass. It is particularly gratifying to me to have this privilege of welcoming you home and of congratulating you on behalf of an admiring country, and to have the honor of presenting to you the Hubbard Medal of the National Geographic Society.

"And I take further pleasure in presenting to you, Mr. Floyd Bennett, aviation pilot, U.S.N., this medal, awarded to you by the National Geographic Society for your distinguished service in assisting and in flying to the North Pole with Mr. Byrd."

Amid wild cheering, he pinned the beautiful medal on Byrd's tunic. Then, when silence came, Byrd began to speak. His voice was low at first, but as he went on gained strength and eagerness. His face was pale.

"In accepting this medal, I cannot but feel that I am representing the half hundred members of our expedition. I was only one of them. So in their behalf and for our expedition's sponsors I want to express our very deep appreciation for this great honor conferred by the National Geographic Society, an honor which is a double one in being received from your hands."

He reviewed the results of the first polar expedition,

and pointed out that the three men most responsible for it—President Coolidge, Secretary Wilbur and Dr. Grosvenor—were on the platform this night. "The Byrd Arctic Expedition was a direct result of last year's expedition, and our success this year was made possible only by what we learned last year about Arctic flying conditions and polar navigating, where the compasses do strange things."

In even tones, he explained why he and Bennett had not sought Navy backing for the polar expedition. The flight was too dangerous to call upon the government to share in its responsibilities. "You see, we knew we were still pioneering in Arctic flying." But he thanked the Admirals and the government for the assistance it voluntarily gave him. Then he swung abruptly into the body of his speech.

"Admiral Peary was the first man to reach the Pole by dog sledge, and I believe he will be the last, for it is my opinion that in Arctic and Antarctic exploration, too, the dog sledge must give way to aircraft; the old school has passed.

"Admiral Peary himself said in his last public address: 'Coming polar explorers, both north and south, are quite likely to use mechanical means which have sprung into existence within the last few years. According to my own personal impressions—aerial flights.' How true his prophecy has turned out to be!

"We know more about landing in the Arctic now, and more detailed exploration can be done in the future. Exploration by aircraft had to be developed gradually, and too many details could not be expected during the pioneering period. America will not rest content until the three million square miles of unexplored regions in the Arctic and Antarctic have been taken by aircraft from the column of the Unknown, and in so doing much valuable scientific data will be given to the world.

"And the United States must plant its flag at the South Pole. It has never been there or anywhere near it.

"But this I will say to those who explore by air in the Polar regions: however conservatively the expedition is planned, in the execution risk must be taken to succeed.

"Captain Scott, of the Royal Navy, wrote as he lay freezing to death on his return trip from the South Pole: 'We took risks, we knew we took them; things have come out against us.' Scott took only necessary chances, but luck was against him. While death stood at his elbow, his last words were: 'We have been willing to give our lives to this enterprise, which is for the honor of our country.'

"It may be difficult to understand that feeling back here, living in ease and security; but when one looks toward one's country from the hardships of the frozen North, detached and isolated, a feeling comes akin to that expressed by Scott, and it seems the most natural thing in the world. That accounts for the superhuman work done by those great fellows with me. They made me proud to be an American, proud to be one of them, and I receive this medal thinking of them and my flying mate here, Floyd Bennett, who deserves credit above any one of us.

"As for me, what I have been capable of I owe the Navy. All my training has come from her.

"We did not go up there for reward. We expected none except that satisfaction that perhaps our efforts might make some contribution to progress. We have hoped, too, that our flight might help to give that confidence in airplanes that it needs to launch out into a great era of commercial aviation—that wonderful science that took us so easily over the frozen wastes to the top of the world.

"Within thirty years commercial aviation will be so spread that regular flights will be made over the polar regions from country to country, cutting off thousands of miles, and so bringing the nations of the earth closer together, both in distance and spirit."

Secretary of the Navy Wilbur then did a very gracious thing.

"It would be difficult, if not impossible, for me to avoid the personal and the individual elements in this adventure, and I shall not endeavor to do so. When Lieutenant-Commander Byrd asked for permission to undertake this flight, before consenting, I asked: 'Are you married?' 'Yes,' he said. 'Has your wife consented to your expedition?' 'Yes,' he replied, 'she said she was willing that I should do whatever I consider my duty.' 'Have you any children?' 'Yes, three.' 'As your wife is willing, I will give you leave.'

"I am sure that we will not do justice to ourselves or to our innermost convictions if we fail to do honor on this occasion to the heroic little woman who had so little to gain and so much to lose in this undertaking. She is present and I will ask her to stand up, so that you may see her. . . ."

Mrs. Byrd, tall, slender and lovely, rose hesitatingly; but the simultaneous rise of nearly everybody else in the hall, the better to see her, ruined the effect Secretary Wilbur had sought. "So many women are standing," he added whimsically, "that I fear we will have to postpone our effort to identify Mrs. Byrd."

It would be interesting and important, in view of the criticism leveled against the explorer, to note the report of the Society's experts upon which the Hubbard Medal was presented. Before his departure from London Byrd had rushed his charts to Washington, and these had been carefully scrutinized by three experts—Hugh C. Mitchell, Albert H. Bumstead, inventor of the sun

compass, and Henry G. Avers. Their report demolished whatever doubt may have existed. The report began:

"We have the honor of submitting the following report of our examination of Lieutenant-Commander Richard Evelyn Byrd's 'Navigation Report of Flight to the Pole.' We have carefully examined Commander Byrd's original records of his observations en route to and from the North Pole. These records were contained on two charts on which he wrote his observations, made his calculations and plotted his positions. We have verified all his computations. We have also made a satisfactory examination of the sextant and sun compass used by Commander Byrd."

After summarizing the peculiar navigational difficulties inherent in this flight, the experts concluded:

"At 8 hours, 58 minutes, 55 seconds, an observation of the altitude of the sun gave a latitude of 89° 55.3′ on the meridian of the flight. This point is 4.7 miles from the Pole. Continuing his flight on the same course and at a speed of 74 miles an hour, which he had averaged since 8 hours and 18 minutes, would bring Commander Byrd close to the Pole in 3 minutes, 49 seconds, making the probable time of his arrival at the Pole 9 hours, 3 minutes, Greenwich civil time.

"At the time Commander Byrd was close to the Pole he estimated the moment of his arrival there at 9 hours, 2 minutes. Our calculations differ from his estimate less than one minute, during which time he would have flown about one mile. From this it appears he chose the right place to maneuver."

Lamenting the breaking of the sextant, which made more observations on the return flight impossible, the report concluded: "But the successful landfall at Grey Hook demonstrates Commander Byrd's skill in navigating along a predetermined course, and in our opinion

is one of the strongest evidences that he was equally successful in his flight northward.

"The feat of flying a plane 600 miles from land and returning directly to the point aimed for is a remarkable exhibition of skillful navigation and shows beyond a reasonable doubt that he knew where he was at all times during the flight.

"It is the opinion of your commitee that at very close to 9 hours, 3 minutes, Greenwich Civil Time, May 9, 1926, Lieutenant-Commander Richard Evelyn Byrd was at the North Pole, in so far as an observer in an airplane, using the most accurate instruments and methods available for determining his position could ascertain."

These were but the beginning of honors that were to fall upon Byrd almost up to the day he departed upon his transatlantic flight. Clubs, societies and organizations fêted him and conferred memberships. Colleges presented him with honorary degrees. Cities and towns beyond number wooed him with flattering receptions, New York alone giving him five in succession. And Virginia, his own State, proclaiming him as its own chosen son, practically turned over its soul to him. On June 4, when he arrived in Richmond, his brother, Governor Harry Byrd, and his staff officially and most formally greeted him. The State's crack military outfit, the Richmond Light Infantry Blues, escorted him through the streets, while the bands joyously alternated with "I'm Sitting on Top of the World," and "Carry Me Back to Old Virginia." Meanwhile, the Richmond *News Leader* was conducting a most energetic state-wide campaign for funds with which to erect a monument to him. "No son since Woodrow Wilson," it said, "has received such national acclaim as 'Dick' Byrd."

But even more spirited was his arrival at Winches-

ter, July 14, when all the townsfolk, those who remembered him as a boy, flocked out in a mighty parade to welcome him. It was a demonstration characterized by a peculiar rule. No one, not even the Mayor, was permitted to use an automobile, in order that every one, from the lowliest of the poor upward, should have equal footing in greeting the city's most eminent citizen.

Finding there were few other honors they could give him, the American Geographical Society created a new one for him at a most distinguished reception. He was made Doctor of Longitude and Latitude, and Edwin Markham, the famous poet, wrote this for the occasion:

"Hail to the hero of Arctic dare
Whose hazard was a lyric of the air—
A radiant writing upon virgin skies
Toward which the centuries will turn their eyes!"

The greatest of honors, however, were reserved until Congress reconvened, which was shortly after the Fokker had completed a nation-wide tour covering in all eight thousand eight hundred miles, while Byrd made up his deficit in an exhausting lecture and visitation tour by means of the more prosaic, if more practical, train service. By that time he and his men had been thoroughly introduced to the country. No less than fifteen million people had seen him personally. Congressional recognition, therefore, was more like a reflected public tribute. On December 13, 1926, Senator Swanson of Virginia, an old friend, submitted the following bill, which was unanimously passed:

"Be it enacted by the Senate and the House of Representatives of the United States of America in Congress assembled, that the President of the United States

be, and is hereby, authorized to advance Lieutenant-Commander Richard E. Byrd, United States Navy, retired, to the grade of Commander on the retired list of the Navy, to date from May 9, 1926, with the highest retired pay of that grade under the law.

"The President of the United States is hereby authorized to present, in the name of Congress, a medal of honor to the said Richard E. Byrd for distinguishing himself conspicuously by courage and intrepidity at the risk of his life in demonstrating that it is possible for aircraft to travel in continuous flight from a now inhabited portion of the earth over the North Pole and return."

A week later, the House Committee on Naval Affairs, to whom the bill was referred, returned it "with unanimous recommendation that it pass."

"Admiral Peary located the North Pole by land; Lieutenant-Commander Byrd located it by air. Each was the first man to achieve the wonderful feat in his respective ways. Both were Americans.

"The nations of the world have been grateful for service rendered and have shown their gratitude by substantial recognition of their explorers of heroic achievement.

"Great Britain for many years held the record of 'farthest north' and conferred knighthood or made Admirals of not less than twenty of its officers, in addition to granting large sums of money for their explorations in the Arctic. Norway made Nansen Ambassador to Great Britain; Italy made Abruzzi an Admiral.

"The United States advanced Peary one grade to that of Rear Admiral. Your committee thinks that Lieutenant-Commander Byrd should be awarded a similar advance in rank as was accorded its other great explorer."

A similar bill was presented for Bennett, providing for the award of the Congressional Medal of Honor and the advancement in grade to machinist "for his gallant service to the Nation as a member of the Byrd Arctic Expedition." The day the Senate passed the bill was the 23rd anniversary of the first flight of the Wright brothers, and partly due to the spectacular demonstration of their invention by Byrd and Bennett, a bill was simultaneously introduced in Congress for the provision of funds with which to erect a monument at the almost forgotten spot on Kill Devil Hill, Kitty-hawk, where they began and ended that historic flight.

On January 6, President Coolidge signed the orders for the Medals of Honor and on January 21 he signed the commission that made Byrd a Commander. It was a rare honor indeed. For precedent had theretofore firmly established the rule that a President should sign the order for grades above that only. There was yet another significant occurrence about that time. When President Coolidge affixed his signature to the eighty-five million dollar Navy program, which provided for, among other things, the construction of two mighty dirigibles the size of the ill-fated *Shenandoah,* there was a loud demand that Byrd be appointed to the new post of Assistant Secretary of the Navy, in charge of aviation. Despite the recommendations of his friends, he promptly vetoed the idea. He felt that he was too young; there were other men in the Navy, more capable, in his opinion, who deserved the post. Moreover, he must remain free for his explorations.

On February 25, the day that the President gave Byrd and Bennett the Medal of Honor, Representative Roy O. Woodruff of Michigan read into the Congressional Record a voluminous study of Byrd's polar flight and that of the Amundsen-Ellsworth expedition. A most comprehensive report, it represented the com-

pressed opinion of every great scientific body in the country, the Governors of States and Mayors, three thousand representative citizens and twenty-five hundred editorials from American and foreign newspapers and publications.

"The first flight to the North Pole and the first crossing of the Polar Sea, from the Atlantic Ocean to the Pacific Ocean, via the North Pole, are major achievements that will live in history through the ages, ranking with the historic accomplishments of Marco Polo, Columbus, da Gama, Vespucci, Magellan, Ross, Sir John Franklin, Peary, and Amundsen's discovery of the South Pole."

The report considered the results of both expeditions in great detail—"the opening of the north passage is destined to lead to important commercial results that will increase in value as the years go by." It concluded with the following significant paragraphs, significant indeed when one recalls the pioneers who never emerged from Arctic whiteness:

"The Amundsen-Ellsworth 1925 Expedition, the Byrd Arctic Expediton, the Amundsen-Ellsworth-Nobile Expedition demonstrated the comparative safety of the new method of exploration, by employing aircraft, radio and other scientific devices, by not losing a single life. No more need fame place her crown of laurels upon the tombs of heroic souls who perished in seeking the north passage."

No more, indeed, the imperishable words of Lord Tennyson on Franklin's monument in Westminster Abbey:

"Not here! The white North has thy bones; and thou,
Heroic sailor soul,
Art passing on thine happier voyage now,
Toward no earthly Pole."

It was then nearly March, and by that time Byrd and Bennett, the polar flight now a memory in their progressive minds, were entirely absorbed in their new adventure; indeed, had begun months before.

CHAPTER X

AVIATION'S "BIG PARADE"

AND then, in 1927, came aviation's big parade. Since the war, with the possible exception of the Army's round-the-world jaunt and the Pan-American mission, the industry in this country at least had been quiet, if not inert. Quite cautiously and temperately it was devoting itself to the primary, if less spectacular, functional pursuits of its laboratories, building for the future. It was intent upon making the airplane safe, efficient and reliable. Its airways were creeping across the continent; it was training good pilots to fly them.

Then suddenly, with a trumpetry that stirred echoes in every part of the earth, that persisted the summer long in an inexhaustible bombardment of headlines, aviation went on parade. The roar of Wright Whirlwinds drowned out the bleating of politicians, oil investigators and demagogues in the scramble for the front page. For two decades the airplane had been held waiting the opportunity to demonstrate the promises of the Wrights; and when it came of age it greeted maturity with the throaty virility of a steam calliope.

Unquestionably 1927 was an eventful year in Byrd's field. Out of it came the story of Lindbergh and out of that, in turn, the psychological impetus to the business of flying that years of effort could hardly have inspired, however important their technical achievements. An "air consciousness" smote the public mind. We seemed to be poised on the edge of a new and

thrilling era of transportation, and the great hero of the moment was the tall, mystical young man with goggles and leather jacket.

But for Byrd, in whose calm eyes the prevision of this awakening had dwelt for years, to whom it was to be another magic stepping-stone, the year was to bring one of the most exciting and, at the same time, most disappointing experiences of his career. True, he crossed the Atlantic by air, thereby fulfilling an ambition of long-standing; but the crash of his plane on the French coast, following so closely upon the safe crossings of Lindbergh and Chamberlin, tended to rob him of justly merited recognition.

I daresay the obvious let-down in public demonstrativeness toward air heroes meant little to Byrd. In long conversations with him, I never heard him complain. He is too good a sport for that. It was not surprising—the shrug of his lithe shoulders conveys no regrets. After all, and this belief is really sincere with him, aviation profited by his experience. Although his ship plunged into the noisy surf at Ver-sur-Mer, a complete wreck, after thirty-nine hours of unremitting conflict with storm-strewn skies, he proved what he set out to prove.

"In the thrill of building, and of having built," he once told me, "one loses all sense of extraneous factors. One's personality is dissolved in, and merged with, the thrill of building. He who seeks the truth in any experiment must gather about himself a stern detachment, and hold himself above bias. This is not egoism; rather it is the self-sufficiency every scientist does, or should, possess."

When Byrd sat down with the late Rodman Wanamaker, to discuss plans for the flight across the Atlantic, Byrd was impelled by one idea and Wanamaker by another. The two men met at a banquet the mer-

chant prince and philanthropist gave the polar aviator in New York, in the summer of 1926. Byrd knew that Wanamaker was keenly interested in aviation and, above all, in betterment of international harmony.

"It is my understanding," Wanamaker began at once, "that you contemplate a transatlantic flight next summer?"

"That is true—Bennett and I," Byrd replied.

"You know, I have had that idea in mind a long time," the merchant said, perhaps wistfully. "What arrangements have you made for backing?"

"None, at the moment," Byrd replied. "I have had too many things on my mind."

"We shall talk that over as soon as possible," the other interrupted hastily. "I am deeply interested."

Within two weeks, Byrd received a request from Wanamaker to visit him as soon as possible, and he came. They talked over plans and it was obvious from the first that their ideas, while not exactly in opposition were sufficiently different to bring at times a certain amount of conflict. Now Wanamaker, who loved France quite as much as he loved this country, having spent much of his life there, was prone to see the airplane as a bold crusading standard that might be used to lead the two countries out of the morass of post-war antipathies. He had the unique idea, being a keen-eyed publicist, that such a flight, boldly executed and richly trapped in the panoply with which journalists would endow it, must captivate the French, cause them to clasp Americans to their hearts and, in the *rapport* of new-found admiration, so he thought, the contemporaneous bickerings over debts and such things would fall away.

As far back as 1912, he had backed such an expedition. Tests showed that the amphibian he had first purchased could not possibly make it. Another,

embodying certain refinements, was under construction when the war compelled the cancellation of the whole project; a good-will flight financed by a private citizen wasn't of much use then. So he was left, so to speak, holding the bag to the amount of two hundred and fifty thousand dollars' worth of experimentation, although he could well afford it. Yet he never permitted the ambition to wane. He was quite insistent that Byrd should undertake the flight under his ægis—had indeed resolved that the 1927 ship should bear the name of its predecessor—*America.*

"It will be an undertaking for the cause of the science of aviation and international relationship, in the interests of world peace, and will," he hoped, "be of great help in advancing these most important factors in our civilization.

"It is my sincere hope that such a flight will carry its message of friendly relationship to France as the *America,* with a heart overflowing with gratitude, will strive to be a messenger of peace and goodwill."

It was not a bad idea. Byrd himself had the same idealistic conception of the airplane. His, however, was a more scientifically bounded perspective. In his mind's eye he saw the day impending wherein airplanes will shuttle between the hemispheres carrying passengers with no more hysteria than waits on the 5:15 suburban local. Aviation had then made a sufficiently strong technical advance, he was convinced, to write a new page in international communication. It was his desire to do it first; and, in doing it, he was delighted at the opportunity to promote international solidarity at the same time.

Why Byrd, most experienced of the flyers to essay the transatlantic flight, cast his lot with the multi-engined plane has never been clearly told. Thoughtless critics poured coals upon his head because of the

choice. The tri-motored ship, despite the polar flight, was essentially an untested vehicle for this long hop. On the other hand, the capabilities of the single-engined plane, it being the more common craft, were generally established. More, because of certain technical limitations which I shall discuss later, the smaller plane admittedly had the greater cruising range and performance efficiency—all most important considerations in a flight of this kind.

It can be said truthfully that Byrd chose the tri-motored Fokker because it was his ambition to create the transatlantic plane of the future well in advance of its time—the type of plane in which freight and possibly passengers may be transported over the Atlantic when, and if, the time arrives. It was a conception that carried him far ahead of the transportation needs of 1927; and, in attacking it, he was compelled to step outside the more limited capacity of airman and become both the passenger and the operations officer of the future. Naturally, the first thoughts in their minds must be: "Is such a flight safe? What assurance have I that the plane will reach its destination?" And, finally: "Have I a reasonable guaranty that the trip will be consummated?"

Quite obviously the single-engined plane, in 1927 as well as now, for all its astonishing success, could not satisfactorily answer these questions, even if it did possess the power to carry a profitable load of passengers or freight over this distance in nonstop flight. For all the progress aeronautical engineering has made, the perfect motor has not yet been invented. Motors do fail, and it is a lamentable inevitability that when motors stop, the plane must respond to gravitational laws—a most embarrassing corollary in transoceanic flight!

Byrd's faith in the three-engined plane had been

more than established in the polar flight; now it amounted almost to a fixed idea. Late in the fall of 1926 he went to Fokker, the outstanding apostle of the multimotored plane in this country, and laid before him his plans. Fokker, builder of those famous pursuit ships bearing his name that fairly swept the French skies clean of allied ships in the early part of the war, nodded his bald head eagerly. "It is a splendid idea," he said. And out of their scores of conferences grew the *America,* Byrd's plane of the future, powerful enough to carry four men and fuel enough for forty hours of uninterrupted flight, and half a ton of load above and beyond the immediate necessities of flight; a load which might, he intended to prove, be translated into the commercial terms of taxable freight.

The *America* was to be so stabilized that it could fly on two motors if one should break down; indeed, with a lightened load, it was to be capable of remaining in flight over a reduced distance with only one motor in operation. One does not require either technical knowledge or imagination to realize what added safety factors this versatility gave. Again, still thinking of passenger safety, Byrd proposed to equip it with the latest protective devices.

Recognizing the difficulty of navigating an airplane in fog and rain, when sun observation is impossible, he told Fokker the plane must carry a heavy radio set with operative machinery. It meant weight, and weight was important, but it was an essential in Byrd's formula. When they warned him that the radio would not work and that he was only loading up his plane with junk, Byrd's reply was crisp:

"I'll take it along, anyway. Some one has to make the experiment. In the future, all airplanes will be

navigated by radio. It is as important to them as to steamers. We'll give it a try."

Even as he assured the success of the flight, Byrd calmly prepared for disaster. There was not a small possibility that disaster might come. After all, it was a hazardous mission. Once more he thought of his theoretical passengers. Under his guidance Bennett designed a special dump valve by which the seven thousand pounds of gasoline might be released from the twelve hundred gallon tanks within two minutes, then automatically closing and providing the disabled craft with a buoyancy chamber capable of keeping it afloat as long as the ship held together; long enough at any rate, Byrd estimated, to permit them to launch the specially designed rubber boats with which he planned to equip the plane.

All in all, it was a broad conception and a daring challenge, but it was Byrd's conviction it would have to be done sooner or later. Even if the single-engined planes made the hop, the multimotored planes would become the backbone of regular service. So why, he argued before his legion of luncheon critics, not eliminate the practice steps and do the job at once? He packed up his bags and his rusty brief case, left Boston and established his headquarters at the McAlpin in New York. Before 1927 began he and Bennett were buried in their task; they gave up everything else, worked and planned through the nights until dawn.

In January Fokker started the building of the fuselage, and the giant seventy-four-foot wing was ordered shipped from his factory in Holland.

About that time, too, the whole "nonstop" industry was beginning to open for business. That the French would try it at the first opportunity was no secret. Nungesser and Coli had tested their machine, the *White Bird,* and pronounced it fit. Lieutenant-Com-

mander Davis and Lieutenant Wooster, both dear friends of Byrd, were building a three-engined biplane, the *American Legion,* and openly proclaimed they would get away first, if they had any luck at all. The brilliant Russian designer, Igor Sikorsky, his grief over the destruction of the *S-35* swallowed in determined pride, was building another and mightier plane, the *S-37,* for Captain Fonck. And out west a young air mail pilot named Lindbergh, about whom little was known, was reported to be building a small monoplane with the serious intent of making the flight. For a time he flickered in the news, but scarcely momentously. What interest there was gravitated to the veterans.

From the first, indications pointed to plenty of competition, but it brought no qualms to Byrd or Bennett. They assured themselves they were "sitting pretty." Wasn't their ship nearing completion? Besides, they had the advantage of an earlier start. It hardly seemed probable that the Frenchmen, who at that time seemed to be the most dangerous rivals, would hop off before winter storm conditions had cleared; by that time they, too, would be ready. It was good logic, but not clairvoyance. The transatlantic kettle began to boil.

Much to the surprise of every one but a few who were possessed of the secret intent behind the mission, Bert Acosta and Clarence Chamberlin, two of the finest commercial pilots in the country, on April 12 stepped into a Bellanca monoplane built three years before, and set out gayly on an attempt to make a new endurance record. They came to land shortly before noon on April 14, after having been aloft 51 hours, 11 minutes and 25 seconds, swinging lazily over a triangular course above Long Island. Not only did they make a new record, statisticians figured, but they also exceeded the airline distance to Paris by more than five hundred miles.

The press broke into a tumult. It was felt then, and somewhat reasonably, too, that the flight could be made. The most pertinent question, mechanical defects being what they are—Can a motor perform unbrokenly during that grind?—had been answered. All that was necessary now, cried the enthusiasts, was the simple procedure of substituting a new terrain—the Atlantic Ocean—beneath a machine of already tested endurance in its own element. And as a result, too, the Bellanca, which up to then had figured only vaguely as a possible competitor, was at once hurled into the "Transatlantic Derby," and became a favorite.

Still, Byrd and Bennett and Noville, who held themselves aloof from the general excitement, were not disconcerted. I talked to Bennett the day after the Bellanca's triumph. He was naturally delighted over the making of a new record. What I wanted to know was whether or not the *America* was in danger of being left behind. He smiled. "The *America* is in a more advanced stage of construction than most people know. We're not worried. Besides, we're not in any race."

The following day Byrd somewhat maliciously played a trump card. While all the experts and his rivals were comforting themselves with the thought that the Fokker was still only a framework and blue prints, mechanics trundled the plane out of the factory and pushed it to the bumpy field at Hasbrouck Heights, New Jersey. They were four weeks ahead of time; and so casually was it done that the newspapermen—and the New York newspapermen assigned to aviation were a shrewd lot—never knew it was happening. It was because of that reason that the crash, which hopelessly handicapped the *America,* did not reach the news wires until two hours later.

Perhaps it is true, as many critics insisted, that the plane was taken up too soon; that with a more careful

examination in the shop its nose-heaviness would have been detected. It is equally true that this is a hazard inherent in any new ship. The cause is a debatable technicality, and is not pertinent here. But its effect changed the whole outward appearance of transatlantic flying.

With Byrd, Bennett and Noville in the forward cabin, Fokker took off the *America* from the field in skilful fashion. In flight the plane responded to the controls easily enough, and the three shipmates exchanged smiles of satisfaction. Fokker was beaming. His airplanes are his children. Nor was it until the little Dutchman cut the throttle, preparatory to a landing, that the nose-heaviness became apparent. With breath-taking abruptness, the ship pitched nose-downward and hurtled at dangerous speed.

More by instinct than anything else, Fokker gave the engines full throttle, yanked the nose back and regained control; the monoplane arched upward to a safe altitude. Fokker wet his lips and tried again—cut the gun, as he did before. The moment power was reduced, the ship slipped into a vertical dive. Fokker turned worried eyes toward Byrd.

"We've got to come down anyway," the Commander shouted. They had only an hour's supply of gas, and that was about gone by now.

Even then, although optimism is the airman's chief stock in trade, it was clear a crash was inevitable. If it had been possible for one of them to crawl back into the tail the addition of his weight might have compensated for the extra weight in the nose, and thus balance the craft. But the great bulk of the fuel tank hopelessly blocked the way. It not only barred the one route of escape, but also contributed another hazard; if the crash were to tear it from its cradle, it might topple upon all of them.

Byrd thought of these contingencies, and his heart sank as he contemplated this hundred-thousand-dollar assemblage of machinery reduced to matchwood. Bennett sat beside Fokker, licking his lips, his hands itching to take over the controls. Noville and Byrd crouched in the lean space behind them, their backs against the tank. They had to take the chance, as gracefully and carefully as possible. The plane had a minimum landing speed of about sixty miles an hour, and Fokker brought it down with all the skill at his command. A hundred feet or so from the ground, he cut the gun. At once the gracefulness of its controlled descent ebbed away and the great wing wobbled. The three shipmates braced themselves for the crash. Fokker, when the wheels bumped to the ground, and he found the controls would not function, sprang for the trap-door at the top of the craft, and was miraculously thrown clear.

The plane became a mighty pinwheel. Its nose became the axis, and the fuselage bumped screamingly from the nose, up and over in a full arc, then crashed on its back. Machinery, instruments and men were jumbled shatteringly within the cramped cabin. The forward motor slapped clear out of its steel bedding and smashed into Bennett's lap. Out of the suddenly still air came Bennett's voice racked by pain, but clear:

"Look out—she might catch on fire!"

Byrd lay sprawled in the wreckage, his right hand numb. Noville moaned in agony, struggled up and with both hands tore and slashed at the fabric walls of the fuselage, gouging out a great hole through which he dived to the ground. Byrd piled out at once. His eyes cleared, and he looked for Bennett. From the plane came an inarticulate sob. Bennett was trapped inside.

Without waiting for Fokker, Byrd scrambled back to the plane again, regardless of fire hazards, regardless of the pain in his broken arm. He found Bennett, sagging head downward in his chair, held loosely. Gear and broken instruments were jammed about him, and it took Byrd, handicapped as he was by his useless arm, a long time to free him. By this time other eager hands were joining him; they cut Bennett free—he barely regained consciousness—and rushed him to a hospital. Byrd went to the hospital with him.

In his own book, "Skyward," Byrd wrote this single line. "I set my broken arm on the way." It was characteristic of him. But to restore a shattered bone in an automobile bumping over a rough road at sixty miles an hour, took something approaching courage. It was his good fortune to do a good job. On the following day he was to do another thing peculiarly in character. The crash of his plane; the injury to three of the country's best known flyers—at that time neither Noville nor Bennett was expected to live—caused a wave of horror to sweep through the press. If this could happen to these experienced men, what might happen to the others?

A newspaperman, convinced that Byrd was hopelessly out of the race, came to see the Commander. A strong friendship existed between them, and the Commander knew he could talk openly. He came to the point at once: "Look here," he said, "I don't want people to get excited about this. Negative publicity is going to hurt aviation. We're engaged in an experiment. What we do should not reflect upon commercial flying. So tone down, if you can, the idea of disaster. Just say that it was a slight accident."

What Byrd felt then was that the public had not yet been sufficiently instructed in the hazards of aviation. He was afraid people might recoil from the

thought of flying. He therefore deliberately minimized his own accident. It was for that reason that dispatches the next day carried reassuring messages of the *America's* debacle. But there was no such balm for Fokker and his engineers. The center motor had waded through the body of the ship, smashing everything in its path. It would take at least a month to restore it to flying condition. It was discouraging. It utterly reversed the situation. Ready to go to the barrier first, indeed, had it not been for this accident, ready to start the flight within ten days—the North Pole flyer found himself hopelessly handicapped. But he turned again to the struggle. Night and day, dividing his time between Bennett, who fluttered thinly between life and death, and the factory, he watched mechanics toil over the splintered *America;* he saw chaos slowly give way to order.

Meanwhile the transatlantic kettle began to boil. Over at Roosevelt Field the Bellanca was being made ready, and the first of the bickerings which were eventually to rob it of all chances of getting away first was starting. Levine and the delightful Sicilian designer, Bellanca, could not agree on pilots. Lawyers danced about the earth-bound plane, and the merry battle of words found an elegant display in the press. Chamberlin and Acosta, quiet, conscientious men, flew while the contract-holders fought. Coli and Nungesser were ready, waiting for weather. "This fellow, Lindbergh," still out west, occasional paragraphs related, was testing his ship. And once more disaster edged into the picture.

On April 30, just ten days after Byrd's plane had crashed, Davis and Wooster took off in their trimotored *American Legion* on an important trial flight. She carried a full load, that is to say, a transatlantic load of fuel and equipment. Byrd knew, from a dis-

cussion of planes with the two men, both of whom were close friends, that the ship would carry a dangerous load; yet he had not anticipated the dreadful ending. A short distance from Langley Field, Virginia, the ship staggered suddenly, and pitched to the ground, a hopeless jumble of wreckage in which both men lay dead. She had been overloaded; taxed with a greater burden than her engines could support. It was a dramatic exposition of the dangers of transatlantic flying, but the clamor of adventure only shrilled higher.

Nor was it until Coli and Nungesser started out in their single-engined Lavasseur plane, *White Bird,* on May 8, that the public fully realized the chances these modern adventurers were taking. Gayly, excitingly, the death's head mockingly painted on its fuselage, the plane shot off the runway at Le Bourget, just outside Paris, and headed westward into storm and sleet. On May 9 the whole North American continent thrilled to reports that it was nosing down the North Atlantic coastline, toward New York. Then the rudely searching hand of fact pricked the bubble; rumors exploded sickeningly and Nungesser and Coli were admitted to be lost, where no one knew.

It was then that horrified hands were raised against these transoceanic flights in land ships. First there had been Byrd's own crash, so wisely, but perhaps not so truthfully, minimized; then the killing of Wooster and Davis; now Nungesser and Coli. Public opinion suddenly crystallized in opposition. It was recalled there had been no fatalities in the pioneering attempts of 1919, when men knew comparatively little about airplanes. Editorial writers rushed to the fore with conclusions that the industry was not yet ready for the long-distance flights across water. They might as well have tried to stem an avalanche; the spirit of enterprise was riding high, wide and handsome.

It was natural that most of this criticism should gravitate toward Byrd. He was a scientist. He had the reputation of knowing what he was about. Friends sought to dissuade him from the flight; imploring letters and telegrams were dumped into his mail box. Byrd's smiling gray eyes glanced over them. "You know," he told me, "they actually believe I would give up. But I have a job to do. Of course there is some danger in it. There is uncertainty in any pioneering step, be it in medicine, physics or astronomy. The greatest tribute we can pay these two Frenchmen is to succeed where they failed. Only by trying can we learn what happened to them and avoid such disasters in the future." He was to have little time, however, for philosophical meditation. The moment's urge was action.

On May 10, "this fellow, Lindbergh," then in San Diego, casually announced he would make an overnight flight to St. Louis and arrive at a given time; this he did to the minute and the hero-seeking spotlight fell about his shoulders, never to waver very far from them. Byrd watched the flight shrewdly. The next day he ordered the *America,* now fully repaired, to be flown to Roosevelt Field for final tests. Once more Lindbergh stole his thunder, although without conscious Jovian ambitions, I am sure. On the morning of May 12, Lindbergh quit St. Louis and headed for Curtiss Field, where he said he would arrive, not "about seven o'clock," but "at seven." Not often do airmen make a virtue of punctuality.

At seven o'clock that evening, to the dot, in fact, while a golden sun still hung high above Long Island, a silver monoplane swung high against a cloud, poised and then shot downward in a graceful dive. "It's Byrd—it's Byrd," spectators cried, rushing upon the field. A little monoplane bounced to the ground and

a tousled blond head popped out of the door. It was Lindbergh, the new hero, and the crowd surged about him. For the moment Byrd was forgotten and in the excitement of the new sensation, Byrd's *America* stole silently through the twilight to Roosevelt Field and came to a landing with scarcely a handful of people to view the momentary drama. Bernt Balchen, Fokker's test pilot, was at the controls.

From that moment on, Byrd was gripped in the vise of circumstance. He found himself forcibly sucked into the "Transatlantic Derby" the newspapers were building up. One day he dropped into Curtiss Field to examine Lindbergh's machine, and the photographers, who never miss a pictorial sensation, persuaded him to join in a group picture with Lindbergh and Chamberlin. Of course the caption labeled them all: "Rivals for Transatlantic Honors." In time that sort of publicity came back to roost in Byrd's hangar and did much harm.

Never had he contemplated participating in a race across the Atlantic. If it was his good fortune to be off and away first, so much the better. But priority was not the basic impulse of his ambition. For that reason he did not become a contender for the twenty-five-thousand-dollar prize offered by the hotel man, Orteig, for the first non-stop flight between New York and Paris. He automatically eliminated himself by refusing to submit an entrance blank. Again, I should like to cite another incident in which, if Byrd had had his way, he would willingly have risked the possibility of the loss of all his plans.

At that time the mystery surrounding Nungesser and Coli was a world-wide topic. On every side there were calls for constructive action, for searching expeditions. The fear persisted that the Frenchmen were still alive; downed, it was supposed, somewhere in

Newfoundland's wilderness, their plane wrecked, themselves too badly injured to reach civilization. Byrd had flown over that part of the country and knew well that they might be down, yet as hopelessly lost as if buried in the sea. He went to Wanamaker.

"Mr. Wanamaker," he said, "I think we have a chance of finding those fellows. If you will give me permission, we'll take the *America* on a searching trip along the Newfoundland shores, into Labrador if necessary. It is the wisest thing to do and the only logical method of search." Byrd was actually determined to go.

Wanamaker listened intently. "It sounds like a good idea," he said. He closed his eyes and debated a moment. "But I cannot give you that permission." It was his opinion that the French government, then earnestly pushing the search in cooperation with the Canadian government, might resent intrusion from another source. Governments really have that sort of jealousy. Byrd accepted the decision, although to this day he preserves the belief that he might have found some trace of the flyers if he had been permitted to act freely at the time.

Whether in or out of the race, Byrd was letting no grass grow underneath the Fokker's balloon tires. Three times a day the plane was trundled out of its hangar and put through its paces. The debacle within the Bellanca camp had left Bert Acosta as free as the air in which he delights to fly, and Byrd signed him up. A brilliant pilot—although only thirty-eight years old, Acosta was ranked second among the nation's airmen in experience—he filled quite adequately the great hole in Byrd's organization caused by Bennett's injury. He and Balchen made frantic, but careful, efforts to get the ship ready.

It would be difficult and somewhat unnecessary to

detail here the difficulties of testing a big plane of this sort. Every one must remember, however, the great ballyhoo in newspapers over "load tests," doubtful though it is that many appreciated what it meant. By "load" is meant the weight the motors must carry. In its broadest sense, the term includes everything—motor, plane itself, pilot and crew, gas, oil, extra supplies and equipment. Naturally, the efficiency of any motor, or rather its capabilities, varies with the amount of load carried.

Only by careful testing, by calibration of motor performance at increasing loads, could Byrd estimate how much fuel he would have to take aboard to complete the flight; and, above all, whether or not the engines could lift from the limited runway at Roosevelt Field such heavy loads as were required for the transatlantic crossing. Many an hour he and his men spent in the little cubbyhole of an office in the barrack-like annex to the hangar, checking up involved figures on tally sheets. Things were moving fast now; there was yet a chance that they would get under way as early as any one, and the tenseness in Byrd's camp slackened a bit, somewhat prematurely it was to turn out. Two factors in his careful plan of organization were to be of immeasurable assistance to his competitors (I use the term for want of a better one) and without them these other flyers might have been severely handicapped.

One of these factors was the working out, in cooperation with Dr. James H. Kimball, Government meteorologist stationed in the New York Weather Bureau, of a detailed and comprehensive program of weather reporting. From the first, Byrd realized that to a transatlantic flyer a comprehensive knowledge of weather conditions along his route was as important as a smoothly functioning motor. The Radio Cor-

poration of America gratuitously offered its services in the transmission of weather reports from sea. Out of it came a truly splendid and, in the light of the limited resources and the newness of the experiment, surprisingly efficient service which redounded to the credit of all. Twice a day, at noon and at midnight, Byrd was furnished with a weather map graphically illustrating conditions along the Great Circle Course at the moment, and anticipating those to follow within the next twenty-four or forty-eight hours.

The other factor was the building of the transatlantic runway at Roosevelt Field. On his tragic attempt the year before Fonck had used the same runway, and the inadequate attention given to the terrain might have contributed to the disaster. Byrd searched the countryside about New York for miles, to find a good landing field, but there was none so advantageously placed as this. It had one severe disadvantage: it was only a mile in length whereas Byrd was desirous of twice that distance in order that the *America,* laboring under its heavy load, might gather plenty of momentum before reaching for the skies. Otherwise it was comparatively free from dangerous telephone wires; it was flat ground and rarely troubled by treacherous winds.

Knowing the stresses imposed upon a plane lumbering over bumpy ground at high speeds, Byrd devoted a great deal of attention to that runway during the early stages of preparation. A squad of men as numerous as any employed on a golf links before match-play was put to work leveling it, clearing it of débris. A steam roller flattened it to billiard-table smoothness. Automobiles were forbidden to cross the runway. Not many men, however careful, would give such attention to seemingly unimportant details, but Byrd worked as passionately upon them as if they were

the most important of all. He told me it cost thirty thousand dollars to condition the runway for the flight. Not only he but the then Captain Lindbergh as well was to learn it was money and wisdom wisely spent.

To Lindbergh and Chamberlin he generously offered the use of his runway and the weather service. It was done without ostentation, for there is a peculiar camaraderie among flyers. Naturally, they were accepted, being indispensable. But it was the true sporting impulse on Byrd's part.

The morning of Lindbergh's take-off, it was May 20 and an oozing mist made the day most uncomfortably clammy and damp, Byrd took a position about the middle of the field. He watched the preparations for the flight: the arduous filling of the voluminous fuel tanks by hand, a five-gallon can at a time. He knew the chances the young man was taking; more likely than not he, too, was thinking of the time he wanted to fly the Atlantic alone. Even to experienced flyers the *Spirit of St. Louis* did not seem to be a staunch craft. A few of Byrd's friends gathered about him.

At 7:52 A. M., when the skies were beginning to break and let in a bit of muggy sunshine, Byrd watched Lindbergh enter his cramped quarters. The Wright Whirlwind broke into a feverish song. Dust flew up behind and the propeller became a shimmering arc of light. Out of the mist it came, like a ghostly dust-tossing bird. It seemed preposterously slow. Its tail skid clutched the ground in a seemingly passionate affinity. Somebody grabbed Byrd's arm: "He isn't going to get off. He can't get enough flying speed."

Down on the runway, guards stationed at strategic points half crouched nervously over their fire-extinguishers. "Wait," said Byrd. "He has a chance." Those seconds were like hours, so packed were they

with suspense; and ages slipped in between the time the gray monoplane started its vague and fluttering rush, and the moment it bounced like a sluggish ball from the ground, fell back, and rose again, barely clearing a row of telegraph wires on a flattened rising curve. Five thousand people, become almost pillars of stone, watched that spear-like thrust; and newspapermen, waiting to flash the take-off over leased telephone wires at the other end of which were editors as tensely pitched as they, became mute in the thrill of it all.

Could this young man, whose sole known advantages were his youth, an obvious intelligence for matters mechanical and the virtue of silence, with a few years of flying experience, his life literally suspended upon the thin jets of oil and fuel sucked into the single motor, survive thirty-five sleepless hours? Could he navigate a man-made meteor traveling at a velocity of one hundred miles an hour through storm and mist and night and still reach his objective? There were many in that throng who thought not. Byrd walked slowly back to where his own plane, now somehow robbed of its glamour, lay sideways in the hangar.

"That lad has courage," he told his companion. "I have never seen such a take-off. For a moment, too, I didn't think he would make it. There's a breaking-point for everything—even motors. But I like Lindbergh. He has a vast amount of courage. He also has intelligence. You know," he suddenly became excited, "I think he'll make it." When the *Spirit of St. Louis* skipped to the field at Le Bourget, thirty-three and one-half hours later, he was one of the first to send congratulations. But I, for one, shall never forget the moment the tidings Lindbergh had landed swept Roosevelt Field. That day, through no fault

of his own, Byrd was reduced almost to a pathetic figure; he rose above it through his own gallantry.

In accordance with the ideas actuating the Wanamaker group within the expedition, it had been decided to christen the plane. Curiously enough, the date selected was May 21, the day Lindbergh landed in Paris. The hour for the beginning of the ceremony was five o'clock—just twenty-one minutes before Lindbergh landed. It was to be a gala event; a minister was invited to celebrate the christening, and as the pièce de résistance, two bottles of water, drawn from the Delaware River at approximately the point where General Washington made his historic crossing, were to be sprinkled over the steel cylinders of the center motor. A great crowd gathered outside the *America's* hangar; American flags in great profusion fluttered everywhere, and there was more than a little air of celebration.

. . . But Lindbergh, alone, was soaring over France. Curiosity held those spectators about the *America;* their thoughts dallied with Lindbergh's fate. Byrd knew what was happening; he foresaw the outcome, confessed it to me even before the ceremony began, yet went through with it rather than cause embarrassment.

"I christen thee—" the minister's voice was interrupted rudely by a cry from the hangar. A reporter, hatless, dashed upon the field. "Lindbergh has landed! Lindbergh has landed!" The cry was electric, and the mob, abandoning the as yet un-Christian monoplane, flocked about the bearer of the news, ignoring the cleric and the two bottles of Delaware water yet to be flung. Byrd immediately took matters into his own hands, and spontaneously translated the ceremony into a tribute to Lindbergh; and in the clamor of a wild cheer for the nation's latest idol the two bottles

of water, procured at a cost of so much effort and imagination, splashed soundlessly against the Fokker's snobbish nose.

One might have expected enthusiasm in matters aeronautical to die after that; but, to the contrary, it reached still higher. The earth-bound Bellanca, now become the *Columbia,* was a thing of lively interest, what with threatened lawsuits and abortive starts. There wasn't an observer on the field who didn't silently congratulate Clarence Chamberlin for his amazing poise and silence. Hot-dog stands were springing up on every side; Coney Island buses were unloading scores of the curious who wanted to see the latest phenomenon; and the Curtiss company was reaping a harvest by "joy-hopping" a public suddenly become air-minded at five dollars a ride.

Too, Byrd's own hangar was a never-failing focal point of interest. Grover A. Whalen had set up shop in the hangar and soon had functioning an organization possessed of as much style as those receptions for which he received imperishable fame. In time, the hangar became, under the uplifting ministrations of interior decoraters, an aeronautical phenomenon itself. It was the first touch of Park Avenue's swank on the flying field; and the hard-boiled mechanics, resentful at the intrusion on their oil-daubed isolation, gazed darkly upon the elegant cretonne curtains, the dainty French telephones, the mahogany appointed "administration office," entrance to which was fenced off by a railing and an officious office boy worthy of a bank president. Twice a day, at least, the dirt floor was swept clean, and a contrast it was, too, to the mechanic's paradise that was the Bellanca hangar, where everything naturally gravitated to the floor. Byrd's old guard of mechanic-retainers, Tom Mulroy, Doc

Kinkade and Demas, did nothing but glower, and talked vaguely of arson.

The climax came one day when Balchen, who is strangely indifferent to this sort of thing, missed a bag of tools he had carefully placed in the middle of the hangar. For half an hour he searched the place, but they were nowhere to be found. One of the men, he finally learned, disturbed that such a dirty bag of tools should be left around, had carefully secreted them where they would not offend the esthetic eye. Balchen is never verbose; when he had finished his lecture on aeronautics and its freedom from officialdom to all who would listen, there followed a noticeable let-down in the activities of the misguided valet. To Byrd, it was one of the most amusing incidents of the preparations.

With Lindbergh's departure, it was inevitable that the pressmen revitalize the idea of a race. For some reason many of the reporters could not find a sufficiently exciting number of condiments in a single venture; there was more grist for headlines in synthetically projected competition. Time and time again, I saw Byrd in earnest discussion with reporters over the matter. "Look here," he told them once at a conference, "I'm not in any race. You know that as well as I do. If I were in a race, I'd have hopped out of here long ago in a single-engined plane—and that you know. There are other lives involved in this as well as mine; and there are certain scientific tasks we have undertaken. These cannot be jeopardized by needless risks." It was not braggadocio that prompted this criticism; it was only that he was tired of that everlasting repetition of headlines: "Byrd to hop tomorrow."

Not once, during those turbulent six weeks his plane was at Roosevelt Field, did he promise or vouchsafe

in any way that the plane would go. When he finally gave the word, it went. But meanwhile his stock, like a speculative stock in an active market, was fluctuating. At one time, it looked as if the Bellanca might never get started. But on the morning of June 4 it did, on a brilliantly executed flight to Germany, and Byrd, who might have led them all, was left behind. While it may seem an unnecessary inclusion in this life of Byrd, none the less I should like to tell the mad, merry story of the take-off as an illustration of the opéra bouffe in the serious business of aviation. Probably it will find no parallel in the history of flying. The wife of the man who rode the first horse, or the first automobile, or ate the first oyster might have experienced it. Charlie Levine's flight to Germany in business clothes must remain an imperishable incident.

All night long and through the dawn, activity buzzed through the hangar. At midnight word seeped out that the weather was good, and the ship would take off. Carisi, the faithful Bellanca mechanic, labored over the ship, getting it in readiness, and Carl F. Schory, Secretary of the Contest Division of the National Aeronautical Association, suspended a barograph in the plane. Having done it several times before, only to be compelled to remove it when flight plans were abruptly dropped, the usually amiable Mr. Schory was convinced it was just love's labor lost. The crowd was gathering outside, and the headlights of a hundred automobiles bunched beyond the ropes poked palely through the mist. A reporter, sick and disgusted with the pussy-footing, rudely challenged Mr. Levine's fluttering press-agent to a fist fight, but the challenge was ignored. Carisi, trembling with mixed rage and fear, chased away a loiterer who sat upon a hundred-gallon tank of gasoline, casually flicking cigarette ashes about him. Amid such hurly-burly

did the goodwill flight to Germany get under way; and to Chamberlin's undying credit it is to be said that he remained above the noisiness and turmoil, pleasantly above it all, a thorough gentleman.

Up to the moment they towed the Bellanca to Byrd's front door, no one knew who would accompany Chamberlin, although the soothsayers by then had exhausted the names of almost every one who ever handled a stick. So when Levine climbed into the cockpit there was not a little surprise. It was known that Acosta and Chamberlin had been instructing him; no one suspected, however, that he contemplated flying the Atlantic. Least of all did Mrs. Levine.

"I just want to see how the ship acts," he assured her. She dabbed her eyes with a handkerchief. Yet it was obvious she doubted even when the plane roared down the runway, then swerved sharply after a run of one hundred yards and returned. She must have seen that it had stopped only to avoid hitting a photographer ensconced with his machine too close to the runway. Once more the plane was maneuvered into position, and Levine waved gayly; one might have imagined he was taking a little flight to Boston, say. This time, however, the ship didn't stop until it hit Germany, and when Mrs. Levine saw the plane bearing her beloved husband dissolve in the golden haze of dawn, she screamed and fainted!

Thus closed the first part of the famous skirmish of Curtiss and Roosevelt Fields. There followed a lull such as one often finds in a melodramatic play, between the climax and the dénouement. At the same time, it gave Byrd and his shipmates plenty of time to prepare for their own flight and removed once and for all the frightful strain of imposed competition. Important as were the two preceding flights, they had no direct bearing upon the program Byrd had outlined for the

America. Succeed though they did, he still persisted, and wisely, as later flights were to prove, in the conviction that the prolonged flight in a single-engined land plane was a hazardous venture; and that the three-engined plane, with its more properly balanced safety factors, its greater load-carrying capacity, was the vehicle through which aeronautical engineering of the future must work if it is to develop a sane, safe and economically profitable system of transoceanic communication. Now, he and his crew went about their tasks unhampered.

Bernt Balchen was taken into the crew as co-pilot, but only after Mr. Wanamaker's rigid rules were followed out. He had insisted upon the flight being made by an all-American crew in an American-built plane. Balchen was a Norwegian, a naval flying officer and the son of a famous surgeon. Although only twenty-six years old, he had accumulated more than 2,000 flying hours; an excellent man, cool, assured and brilliant in his field, and Byrd recognized the necessity of a skilled hand to relieve Acosta. So Balchen journeyed into the city in a brand-new suit, took out his first papers and became an American, his government having gracefully consented. In his own country he is quite a hero.

Four men in an eight-ton plane crossing the Atlantic! It began to look like real traffic on the Great Circle airway, and the newspapers made the most of it. There was a recrudescence of the old enthusiasm for premature hop-offs. In the three weeks that followed, however, the *America* furnished only one major thrill. It occurred when a brake drum froze on the run before a take-off and Acosta averted a crash by quick-witted action. If he had not stopped the plane before it acquired a greater speed, a crash would have been dangerously near. Once more Byrd tried

to soft-pedal the "fear impulse" among the reporters. "It was really nothing," he assured them. "It might have been something, but the plane was protected against it. Furthermore, it isn't necessary to use scareheads over such a triviality."

But the reporters had grown wise in their business. The stories on the wires dwelt entertainingly and harrowingly upon the trivial "if". They had seen and learned enough in this business to sense the imponderables in the aeronautical "ifs".

More, the public, ever impatient for action, was for some reason growing tired of the stymied *America*. Letters of criticism poured into Byrd's office daily. Some of them were enough to turn his hair gray. The Commander showed me a bunch of them one day. "You coward," one began, "what are you doing out there? The Navy could put you to better use than permitting you to cool your heels in Long Island breezes." Not all of them were from men; many came from women. Like a boiling, caustic flood, they poured from cities and country towns; from young men and girls; from ladies' homes and from small-town business men.

A few days after Chamberlin landed in Germany, the *America* was quite ready, but the weather changed. It was then the crew was put under the greatest mental strain. Twice a day Dr. Kimball and his colleague, Dr. Scarr, sent in their weather maps; there was always a great trough of "low pressure" air lying athwart their path. And if it wasn't that, the wind was not right on the runway. Taxed as it was with its great load, the *America* needed a straight, down-the-runway wind of at least eight miles an hour velocity—in this case a west wind—to insure a safe take-off. The specter of the Fonck crash still hovered uncertainly at the edge of Roosevelt Field, at least to avi-

ators. To the public, which had forgotten it long ago, the "fickle west wind" became a symbol of aeronautical buffoonery; and to Byrd a *bête noir*.

It was inaction of a kind that might have shattered less cohesive organizations; yet through it all, with never a hint of dissatisfaction within the ranks, Byrd's machinery survived. It was a tribute to him personally. He spent long hours at the field. He conceived all sorts of tasks to keep his men busy, to keep them from going stale. That was one lesson he learned in the Arctic. And he watched the skies with tired eyes, wishing, wishing for weather . . . a far-flung, clear, clean horizon at the rim of the Atlantic, and a steady west wind at dawn.

CHAPTER XI

"TO PARIS!"

IT would be distortion to say there was ever friction between Byrd and the "angel" of the expedition, Rodman Wanamaker. There were, however, certain differences of opinion which were smoothed out with perfect equanimity on both sides. It was inevitable that such incidents should occur; they never seem to fail when well-intentioned laymen dabble in aeronautics. For some reason or other, they cannot seem to realize that this business of flying is still starchy in its newness, and that it is responsive to the same high pitched emotionalism as any new school of specialized, artistic effort. Airmen for the most part are the most independent people in the world; aloft, they rule with more autocratic precision than the skipper on his bridge. And Byrd, a naval officer of high standing, with a brilliant reputation to protect, is no exception. In my opinion it was simply unfortunate that he was compelled to submit to circumstances which his experience showed to be unwise.

About the middle of June the *America* had undergone a most extensive regimen of testing. The table of performance showed the plane could carry so much load, so much fuel and oil, at known velocities. From these facts it was possible for Byrd to calculate the varying velocities to Paris, even to the last fraction, at each fifty-mile mark along the course. It is to be understood, of course, that the fuel load must lighten in continuous flight, and as the load decreases motor

efficiency would increase. With these known factors, Byrd calculated that, carrying a maximum supply of fuel, the *America* could maintain *unbroken flight for at least forty-four hours.*

That afternoon, he motored from Garden City to St. Vincent's hospital, where Bennett, now struggling back to health, awaited each visit of his flying mate. Byrd laid the table before Bennett. The pilot had been informed of the progress of tests; he knew that Balchen and Acosta had rated with proper accuracy. His eyes flickered over the final calculation . . . "44 hours of sustained flight." The proof that vindicated Byrd's judgment of the tri-motored plane, the proof that the plane was capable of the distance he had, against denial of skeptics, believed.

Bennett's eyes smiled. "If I were you, Dick," he drawled, "I'd do just what you're planning to do. Damn it, *I'd fly to Rome!*"

I know that Byrd went to Wanamaker the next day and laid the new plan before him. The facts were clear enough. Lindbergh had carried the olive branch to the Quai d'Orsay; Chamberlin had brought American goodwill to Potsdam, although delayed a bit by a forced landing at Eisleben, and incidentally established a new record for long distance flying, the further to astound the world over these flying Americans. Wasn't it obvious that American aviation, then growing robust upon the pabulum of publicity served upon the world with every new record, could add more glory to itself by shoving a plane to another world capital—the farthest removed of them all? Byrd, after all, had aviation's well being closest to his heart.

Once more the financier uttered the banker's final "no." His heart was set upon France, nor could any amount of suasion move him. What he considered to be aviation's greatest beau geste must be made to the

Tricolor. Again, I know that Byrd talked lengthily about plans for a return flight to this country, at that time unaccomplished. Wanamaker was not particularly enthusiastic. The honor for such a flight, he felt, belonged essentially to France, as her personal tribute to her lost airmen, Nungesser and Coli, and a vindication of her flying men. If it could be arranged that a Frenchman should sit in the *America's* cockpit on the return flight and share physically in the glory of handling the controls, then he was willing to believe the return flight might be made without serious rupture of Franco-American cordiality.

Of these negotiations, although his career was deeply imbedded in them, Byrd never talked publicly. He gracefully submitted. But it is my sincere belief that, if Byrd had been given full authority; if he had been permitted to carry on to Rome, those frightful hours of floundering through the fog over Paris in search of a landing field, to keep his word, and the final crash on the French coast, might have been avoided. Byrd, himself, has never permitted such an optimistic autopsy.

Meanwhile Balchen and Acosta and Kinkade kept the plane as finely tuned as a concert piano. Toward the end, when the hours of waiting finally began to rasp against the nerves, Balchen moved into the hangar altogether, sleeping in the barrack-like annex with the ground crew. "Visiting firemen," to use the phrase, came to view the plane in increasing hordes, and the most unmitigated watchfuless had to be maintained to keep it intact from the clutching hands of trophy-hunters. Everybody wanted to be photographed standing near the plane, and few were above asking permission to have it dragged out of the hangar and backed into position for just that sort of thing. A titled Italian woman who had flown during the war

kept solitary vigil outside Byrd's office, in the vain hope that he would consent to take her along. Crackpots and critics jawed outside the ropes, manfully held at bay by "Mike," the faithful watchman, who had been loaned, "blast it!" by Wanamaker's to watch this "bloody flyin' machine when I should be home with me good woman."

In the period of waiting there was yet another ceremony. With a great deal of fanfare, Byrd was inducted into service as a duly constituted postmaster and on the tail of the *America* was painted the legend "United States Mail." It was the official inauguration of governmental transoceanic mail. At that time the postal powers at Washington with considerable bewilderment were trying to decide upon some form of rebuke to Levine for having, without benefit of official permission, used the Bellanca for the same purpose.

It was on Friday morning, June 24, that the first real thrill of excitement electrified the Byrd camp, after these weeks of inertness. The report spread that the ship would take off that afternoon. Byrd had changed his plans, the rumor read: there would be a twilight start, a flight up the coast through the night, and a landing in France in daylight. Crack writers hurried out to the field; by early afternoon wires were chatting with take-off briskness. Byrd smilingly watched it all. "I can say nothing until I get my weather report." A few hours later, for the first time in a week, the plane was towed out of the hangar, taxied to the runway and there hoisted to the crest of the mound Byrd had built at the far edge of the runway—a mound fifteen feet high and sixty feet long, an innovation which, it was hoped, would add another five hundred feet or so, theoretically, to the length of the runway.

There was not a little tension to it all, particularly

when Byrd's ground squad, Sargent, Demas and Mulroy, began to fuel the plane. When that was done, "Doc" Kinkade pushed open the trap-door in the floor of the plane, and climbed inside. For ten minutes he warmed up all three engines. "Sweet as honey," he shouted. "Oh, boy!" Now for the weather reports . . .

Within half an hour they all had more weather than they could handle. Out of the east, scarcely with warning, strode a mighty thunderstorm. The first gust of wind screamed under the giant wing and almost flipped the plane on its side. The biting drops of rain drove the spectators to the shelters, but the ground-crew found themselves pitted against the storm in an exciting struggle to save their ship. The ropes lashing the fuselage to the mound groaned under the stresses; each thrust of the wind viciously threatened to lift the plane, for all its weight, and smash it over and on its back. There was almost enough strength in the gale to give the plane flying speed.

Kinkade met the crisis with characteristic resourcefulness. He stumbled through the rain, lashed a bit of gear to the undercarriage, fastened the other end to the rear axle of a powerful small car, and then, heading the car into the direction of the storm, gave it full throttle. For moments, he said afterward, the speedometer showed fifty-five miles an hour, although the wheels ground futilely in the slime—but it saved the *America*. There could be no hop-off that night. The runway literally ran with rain. Mulroy bedded the *America* for the night, its wing seemingly glistening with hope in the golden sunlight that came at twilight, and the pilots walked sorrowfully back to the hangar.

For two days the *America* lay poised on the mound, its tanks full of fuel, its fuselage fastened to stakes with

stout cables. Again on Sunday night the hop-off fever flared up again. Byrd pleasantly informed a friend over the telephone: "There is a possibility we may get away in the morning. Please wait, however, until I get my weather report. It cannot be decided until then." He had made a firm decision; at this stage of developments, nothing was to be gained by plunging into uncertain meteorological conditions. He tried to hold back the enthusiasm, but the trumpets were blowing loudly. . . .

The same old crowd was filtering across the field at midnight, careless of the rain. A little Italian trundled in a perambulating coffee shop and did a thriving business. A few limousines disgorged top-hatted gentlemen and their ladies; quite obviously the early editions had caught the news for the night club crowds. Dawn fell bleakly through the muddy grayness, and all eyes clung to the flag above the hangar, pleading for the west wind to flatten its folds. The prayers went unheeded, for it hung soddenly. Every now and then a gust would stir it into motion, and the cry would rise: "Here it comes." Almost immediately it would fall back. In all the turmoil somebody had neglected to spread the word that Byrd had called off the flight. Even if a favorable wind was to be had, the runway was in such wretched condition from the downpour that any attempt would have been folly.

Acosta and Balchen were impatient. They had no idea that the Commander had gone back to bed. Six o'clock came and with it a puff of wind out of the west. The flag flowed out to its full length and held there, as the wind steadied down. There was much wetting of thumbs and calculation of velocity. Balchen's eyes flamed. "We're going," he cried. He and Acosta dashed out to the plane, half a mile away, and

before the crowd caught up with them, all three motors were popping.

Instantly the rumor spread that the two were going to kidnap the plane, and start off anyway. Cameras ground, and a lone policeman struggled with the mob. Oh, it was crazy—but oh! how lively! A clear-headed reporter, Lauren D. Lyman of the *New York Times,* had the wisdom to call up Commander Byrd and tell him of what was happening. The Commander asked him to summon Balchen to the phone. In a very few moments it was all over. Three more days of inaction fell lazily in line. Then came Wednesday night—June 29.

About midnight one of the group of reporters close to Byrd called up his temporary quarters in Westbury, and, more for protection than expectation of news, inquired as to the weather report. "Kimball has just told me it looks pretty good," Byrd answered. "That low off Newfoundland is clearing up. I'll let you know later." The skeptics refused to be bullish. They went to bed. Not long after one o'clock the Commander's brother, Harry, called up one of the newspaper men. "Dick told me to tell you," he announced casually, "they'll get under way this morning. He can't fix the exact time, of course· but it will probably be a little after day-break."

A quaint old-fashioned nostelry, the Garden City Hotel, had seen many strange sights since Roosevelt Field became a daily date-line for the aviation world, but it is doubtful if it ever witnessed before the excitement that came with the spreading of this news. The evacuation could have been no more expeditious if fire had swept the building. The cry "Byrd's going" rose wildly through the corridors, routing the journalists out of bed, chasing them into the lobby in a boisterous, boiling stream that flowed to the field.

Within twenty minutes telegraph wires were chattering. Balchen, tireless and energetic as ever, was out on the field, fussing around the ship. The ground crew was engaged in a last minute check of the plane. And the first pink spears of light announcing dawn had come when Commander Byrd arrived at the hangar, clad in a naval fatigue cap, a gray windbreaker, tan-colored breeches and flying boots. Quite plainly he had had very little sleep, for his eyes were rimmed darkly underneath. But he was extraordinarily cheerful.

"Nothing will stop us to-day," he said quietly to the newspapermen who instantly flocked about him. "Kimball assures me the weather is fairly good over the Atlantic." He glanced up at the flag. "And it looks as if we're going to get a west wind."

Weather fairly good? Quite true. But it was still bad enough to cause the conscientious Dr. Kimball to insist it wasn't particularly good. There was still that laggard festering spot of cold and storm in the "trough of low" sprawled across the belly of the Atlantic; enough of it, indeed, to provoke him to contend that conditions were not as favorable as those attending the preceding take-offs.

"Have I got an even chance of getting good weather by the time I reach that point?" Byrd's finger fell directly upon the map where the meteorologist had marked the storm.

Kimball answered slowly: "I'm not certain. There is, of course, the chance."

Standing at the door of the hangar, fringed by an impatient group of newspapermen, Byrd mentioned nothing of this conference with Dr. Kimball. He was tired of waiting. The decision was inevitable. The patience of his crew was becoming brittle. And there

was that chance, however dim, of getting the kind of weather he deemed so necessary for the fulfilment of the ambitions he held out for the *America*. If he waited all summer, the chances were that he might get nothing better.

"Very well, we'll take it!"

He stood for a moment at the threshold of the hangar, alone, his hands poked reflectively in his pockets, and stared at the horizon. The sky was becoming alive with light. And beyond the widening horizon lay forty-two hours of cosmic struggle.

The *America*, a monster thing of wing and blades, crouches on the crest of the mound, its snout of a nose peering through a sluggishly beating propeller into the mist-filled murk. On the shelf of dirt they have built for it, its wing braced for the rush of clean air, it is more like some mighty, awesome offering of a strange people to the gods than a mere compound of steel, fabric and alloy. A certain tangible sense of awe infiltrates the crowd. There is little shouting.

It is a little after five o'clock and Doc Kinkade, his eyes sparkling and grinning, is tinkering with the throttles. Now the port and starboard propellers join in the pounding harmony. A chilling rain falls. And in the narrow fuselage Byrd is feverishly sorting sundry impedimenta.

Acosta, burly and jovial, scrambles into the plane and relieves Kinkade. The engineer is radiant. "You couldn't ask for anything sweeter than those engines," he tells the pilot. "If you don't get across with these, I'll be on hand to break your neck." Acosta laughs in his face. In a moment Balchen and Noville tumble into the cabin.

Kinkade moves back to assist the Commander, who is removing all bulky packages from the cabin. One by

one he hands them to the engineer. "That's about ninety pounds," he calls. His eyes rove over the equipment. Byrd picks up a vacuum bottle and tosses it to the engineer. Kinkade looks up, puzzled.

"But," he protests, "that's your tea."

"Never mind," is the answer. "It means five pounds less weight."

Kinkade weighs 180 pounds.

"I didn't know you were shaving weight that closely," he says, more to himself than to Byrd. "I'm out . . . absolutely!"

Gone now is his plan to stowaway in the cabin. Wise and skilled in the ways of motors, he is brave enough to crush instantly his own eager plans for the safety of his shipmates. He steps back. How wise he is, no one is to know for many minutes. But that sacrifice of proffered tea, so quickly interpreted, is twice to symbolize the margin by which four men cheat disaster.

Almost from the beginning, misfortunes come to cuff the soul of the *America*. Each time, by sheer boldness and skill, the pilots pull her through. It can be tough business, this transatlantic flying, and don't let the romanticists tell you differently.

That it might take off from the mound with maximum speed, the ship is trussed up on the mound, a heavy cable lashing the tail-skid to a huge stake. The theory is to "rev" up the motors to maximum speed—almost flying speed—then cut the rope. If all goes well the plane will achieve, theoretically, a ground speed of fifty miles an hour by the time it is ready to level off into the runway itself.

But theories do break down.

While Acosta is nursing the engines, burning the last touch of morning frost out of the motors, Mulroy moves back on the mound, ax in hand, to take his post. Then, abruptly, with a crash that is heard all over the

field, the cable parts and the *America,* its engines turning over at barely half speed, lurches forward and rolls drunkenly down the runway. Mulroy's ax, trying to free the tortured plane, falls emptily upon frayed threads.

Chance it? Acosta needs no word from Byrd. His strong, capable hands are already caressing the three throttles, and the plane gathers speed.

Chance it? Only a year ago, Fonck and the gallant Curtin chanced it on the same runway with as poor a start, and fifty seconds later their plane lay scattered in half a dozen flaming sections. The agile finger of the air speed indicator is dancing up . . . twenty, thirty, forty miles an hour. . . .

Great spaces of the runway, each one a yardstick to his career, Byrd watches fly underneath the plane. Still the tail hangs viciously to the ground. A long, low underslung racing car paces alongside at frightful speed, regardless of the corrugated ground—the designer Fokker and a mechanic, with three fire extinguishers clashing in the tonneau.

Lt. Noville, face pale but jaw set, crouches behind Acosta, his hand on the fuel discharge valve. He has eyes only for Acosta's rigidly braced elbow. If that elbow snaps back, he is to rip open the valve, dumping the whole cargo of fuel. It might, at least, reduce the fire hazard in the event of a crash. And Noville knows as does every man in that plane, that Acosta's elbow will come back only if a crash is *inevitable!*

Balchen, sitting beside Acosta in the other seat, braces his feet nervously, his hands itching for the controls. Behind him is Byrd, his decision quiescent in the laps of the gods.

Now the rim of the gully—the gully over which Fonck's Sikorsky so precipitously catapulted—is only a trifling distance away. Not far off is Mrs. Byrd with

the Commander's brother, Tom, frozen into muteness by the Fokker's daring rush.

Ever so lightly, Acosta jiggles the rudder pedals; ever so lightly, too, he fingers the control column, attuning his muscles to their sensitivities. Wait! Get the last thin thrust of ground speed. Then all the power latent in his sloping shoulders spurts to his hands and thighs and, with a brutish force that fairly shakes the plane to the wing tips, he pulls upwards. Sluggishly, it seems, the tail pries loose from the earth and arcs into flying position. The mad bumping ceases. They are off the ground, climbing, a few precious feet at a time, to be sure, but climbing.

Balchen sees the crevasse slip away less than five feet below him, sees the vine-encrusted tip of the Sikorsky's propeller buried there as a trenchant warning to impetuous challenge.

"Christ, Bert," he shouts, "that was magnificent." Acosta is too busy to hear. It will be ten miles before he dares to pivot that ship, overloaded as it is, on its wing and head it into its proper course eastward.

Byrd, in the cabin behind, apart from the struggle of his pilots because of the bulk of the fuel tank, smiles grimly, thinking of what a few pounds more of weight might have done—and of a pot of tea.

Far behind them, lost to their sight, another bit of drama is taking place. The "old guard," the ground crew, Mulroy, Kinkade, Sargent and Demas, are walking arm in arm toward the hangar. The passing of the tumult has, in its swiftness, chastened them. Mulroy's eyes are quite wet.

"By God, Doc, they've got to make it. She'll go through." The spell of the North Pole flight was coming back again, bringing optimism and unshakable loyalty. They shake hands with a curious tenseness.

Fifteen minutes later, the *America*, now with a

husky amount of altitude under its wing, plows a hole through the mist and moves over the field, its direction reversed, this time toward . . . Paris. Half a dozen single-engined monoplanes scurry around its side, an impromptu escort of flying photographers. In stately fashion it moves on, disdainful of the intruders, and disappears.

The papers are on the street: "Byrd Takes Off on Transatlantic Flight." More than four thousand miles away, Maitland and Hegenberger, the army flyers, in a ship that might almost be called a sister-ship to the *America,* at that moment are hurtling across another ocean toward Hawaii, and headline writers batter between Scylla and Charybdis in choosing what to "play."

Two hours slip by, and the *America* is still swishing through fog. It is now over Cape Cod. In the control cockpit, behind the silent, impassive figures of Balchen and Acosta, crouches Noville, tapping a wireless key and telling an anxious world that is slipping away beneath them, though unseen, that all is well aboard.

And Byrd, his eyes on his charts, permits himself the luxury of a thrill of exultation. His faith in the three-engined plane, his foresight in having built that runway mound which, in spite of the abortive start, partially gave the plane the tremendous springboard it needed, his weeks of planning, they were all vindicated when the *America* struggled into the air, though requiring more than ninety miles an hour to do it.

Ahead lies the final laboratory in which his theories must stand test—three thousand three hundred miles of rock-coarsened coast and sea to France. That, and storm, and fog. There is only one thing he actually fears. His mind conjures up a conversation with Bennett when first they planned this flight.

"The most disastrous thing that can happen to us would be to reach Paris in fog at night. The prospect of a forced landing at sea isn't bad. We have radio and rubber boats. We can take our chance on that.

"But to arrive over France in a storm, with beacon lights drowned out in storm, unable to see—that is a terrifying possibility. For that we have no defense. A great plane, six tons of delicately balanced machinery which cannot be landed at less than fifty miles an hour, pushing through the darkness of an unknown coast, engines eating up the fuel, and the realization that when it is gone the plane must come down, willy-nilly, hardly a chance of coming out alive. . . ."

Scarcely a pleasant panorama for a contemplative man, yet it is one of the things Byrd is to learn that fate holds in store for the *America.* But the greatest hazard of all is not to come from the engines, not from storm, nor night. It is to flame out in the inverted crucible of sky, where human minds and bodies scream out against, and fight, the pestle of sleepless hours, and the deafening uproar of steel, and the soul-stifling cramping of limbs—while a few thin jets of gasoline, their sole pretense to life, keep motors pushing through the fog and storm, and over land and sea they cannot see.

How many times Byrd quit the little desk at which he works in the fuselage, to crawl underneath the fuel tank and thence to the control cabin, he does not remember. One trip through that back-scraping labyrinth is a telescoped education in gymnastics. It can hardly be dignified as a passage, being simply the space between the cylindrical main tank and the angle of the floor and the right side of the fuselage. One lies flat on the stomach and drags himself through.

Bulking in his steel chair he finds Acosta, motionless and absorbed. A few inches away, in a similar

seat, is Balchen, his massive shoulders broadened by the huge pull-over canvas jacket he wears. The Norwegian, quite as grim as his fellow pilot, stares through the window, his blue eyes trying to pierce the mist. He sees the Commander behind them, and smiles the laugh for which he is famous. His pudgy index finger points to the speed. They are scurrying up the coast at ninety-five miles an hour. Considering the load, it is excellent time.

Ahead, or to the side, during these first few hours, nothing can be seen. The fog swells up before like a ghostly, sucking sea. Although the port and starboard propellers cut the mist to ribbons beneath the canopy of the wing, it closes in thickly. Indeed, it presses in about the wing tips, at times burying them from sight.

No one talks. Men talk little enough on such expeditions anyway; and the tumult in the cabin, no larger than a submarine control station and jammed as tightly with machinery, is frightful. The whine of the propellers rises and falls with a curiously monotonous beat that is more a swelling and diminishing grind. The propeller wash slashes at the fabric sides. And to this cacophony, which is not lacking a certain rhythm, half a hundred instruments and gadgets dance loosely in their sockets, to contribute their own gritting harmony.

In all this racket Noville, a sound-proof helmet over his head, tinkers endlessly with his radio set, now trying to reach some station, now jotting down a message which he hands at once to Byrd. Or, if the Commander is in the cabin aft, he jots it down in longhand on a slip of paper, attaches it to a little trolley not unlike that amazing device used by most department stores, and whips it back to Byrd. He has another task—that of dumping the extra fuel carried

in five-gallon cans into the main tank as soon as the level there, due to engine consumption, gives him space. One by one these cans flash through the trap-door and tumble into the sea.

With that characteristic devotion to detail from which he can never escape, Byrd is jotting down impressions in his log-book—the same log-book he used on the polar trip. "We are flying at an altitude of nine hundred feet." . . . "I have never seen such fog in the air." . . . "The wing tips are buried in mist." . . . He industriously notes engine temperatures, air speed and R.P.M.'s, climbing speeds, all for the purposes of detached calculation.

Toward the end of the long curving swing that would cut across Nova Scotia, the fog thins out a bit. Halifax stares out of the grayness, a dark denseness. Byrd recalls his experiences there ten years before, his ambitious plans to fly on this same errand. In a moment, the city is lost to view.

Once more fog rises into their path, and Byrd must give all his attention to the compasses. Newfoundland's low-hung headlands pass underneath unseen, although Byrd knows exactly where they are. But there is none the less the hazardous probability that St. John's—the "corner" where they shall swing abruptly from land and head into nineteen hundred miles of open sea—shall be lost to view. A heart-breaking realization. The last—and most important—opportunity to check their position before striking the sea.

It is well after six o'clock, and Byrd sits at his table, calculating. The last of the extra fuel cans has long since gone overboard. Unseen the *America* curves in a great arc across Newfoundland and stands out to sea. Three hours pass—three hundred miles.

"Check fuel," he orders Noville. Noville sends

some figures over the trolley. Byrd engages in mathematics.

Not enough gas to carry them even to the French coast!

Byrd rises and flings open the sliding window of his cabin. Fog has closed in thickly about the plane, and there is not even the slightest indication of it breaking. Worst of all, night is coming on, and the *America* is tugging mightily to lift its great load, trying to lift its ceiling of five thousand feet, and fairly eating up gas. It is becoming cold, and the barometer is dropping. They are moving into the area of storm.

Shall he continue? Turn back? Before them, a whirling, ragged mass of storm. Behind them, dangerous coast and fog. The lives of his three shipmates tilt the balances. Let's see: what are the odds?

The conditions. They have so much fuel. France is so many miles away. The motors will use a fixed quantity. There is no place for optimism in an equation.

In his log-book Byrd jotted down: "zero." But there is yet the uncharted chance of the winds, the prevailing westerlies streaming Europeward. It has been one of the great theories behind his project. Perhaps at high altitudes they might capture a husky following wind which would sweep them ahead at top speed while the motors run at low throttle. A wild hope. An aching struggle. And always the chance of motors gasping suddenly, then the long, sweeping, final glide into the sea, and the radio flashing for aid.

The *America* knifes lustily into the outer rim of the storm, tossing, scrambling up the precipice of night, fighting for every inch of altitude. Byrd is sincerely worried, worried over his ship and his men. Shall he turn back? Must he? It is gas, not the hopes of men, that keep motors going.

"If your estimate is correct," he writes to Noville, "we have not enough gas to reach Europe. I am responsible for the lives of all of you. Do you want to turn back?"

Noville's answer slides back quickly, a message scrawled hurriedly on dirty paper. "Would say no. No landing field, anyway, between here and States. Might as well keep going."

It is decided. Byrd writes in his log: "A great worry is off my mind. I wanted to go on." The unexpected impoverishment of their fuel he decides to keep secret from Balchen and Acosta. There is no need of adding to their troubles. Darkness falls hurriedly about them.

If the fog-bound day was grueling, the night is to be doubly so. On and on and on; not a light in the cabin save the ruddy flashes of blazing vapor from the engine exhausts, twenty-five thousand to the minute, which etch the faces of men in ghastly relief. It is unreal, almost grotesque. In the dull, relentless hammering of the hours, the men become automatons, their energies lulled by the sing-song motors.

Acosta turns over the wheel to Balchen, and stretches himself with almost stenthic vigor. It is becoming frightfully cold, well below zero, and the pilot shiveringly buttons his jacket. Byrd, coming forward a bit later to take his "spell" at the wheel, gets jammed in the passageway underneath the fuel tank. For ten minutes, unnoticed by his companions, he struggles there, and frees himself only after superb acrobatics. He wriggles back, tears off his sweater, and finally gets through. Acosta cheerfully relinquishes his seat, and Byrd clambers into it, meeting Balchen's jolly greeting with one as good. One would never know it was July; the wind whistling through the fab-

ric sides is as cold as ice, and pierces even fur-lined mittens.

Acosta lounges against the fuel tank, tearing at one of the whole roast chickens with which a thoughtful Long Island delicatessen-store manager, who became an aviation fan, thoughtfully provided them.

Now Balchen dozes. Byrd, at the wheel, suddenly glances down at the Norwegian's feet. They suddenly swing dangerously close to the fuel discharge valve. A little kick—it need hardly be more than a push—and their precious supply of gasoline will stream into the sea within thirty seconds.

Balchen moans, stirs and swings his feet out of danger. Byrd breathes more easily, and Acosta grins.

A glance at his wrist watch shows Byrd that it is three o'clock. The cold has stiffened his muscles, and he becomes aware of Acosta at his elbow. He has been trying to get a few winks standing up, for his shoulders are too broad to enable him to get through the passageway to enjoy the more spacious quarters aft. Byrd tosses over the wheel to Balchen, and Acosta takes his seat. Byrd goes back to his cab, to study his notes and check up on his navigation. After a short trick, Acosta takes the controls.

Possibly half an hour later, Balchen gives a start. He had been dozing, and his mittens fumble at his eyes as he stares at the environing darkness. The plane is vibrating strangely. Its speed seems to be increasing, faster, faster, faster. . . . .

Byrd, too, senses this new motion and plunges into the tunnel to find out what it is, just as Balchen stares at the instrument board in front of him. There a whole cosmos of dials and trembling mechanical fingers tell a visual story of motor temperatures, direction, power, speed and drift. The bank-and-turn

indicator oscillates wildly. The altimeter hand is dropping, and for each space it moves, the hand on the speed dial moves upwards.

Were they in a tail spin? Dropping toward the sea nose first, rotating, faster than two miles a minute.

Byrd reaches the cabin in time to see Balchen tap Acosta on the shoulder. The pilot comes to with a start. He must have been napping. His eyes instinctively seek the instrument board and sleep falls away from him. He kicks the rubber pedals smartly, steadies the ship, and then pulls back on the wheel. In a moment, the instruments cease their restless quivering, and Balchen, with a weary smile, slumps back into his chair.

Even to such experienced flyers it is an eerie feeling. For all their senses can determine, they might be flying upside down. In that black void, nothing is relative; distance and space, and time are sifted down to a few millimeter points on a dozen instrument faces.

Byrd, glancing down at the thermometers, suddenly discovers a critical reading. Ice is forming on the wings—the most insidious menace of all. Enough of it will drag down the stoutest plane almost without warning, and for hours, while it raced through the fog, the *America* had fairly oozed moisture. Scanning the first warning encrustations on the wing, Byrd sharply orders Acosta to climb out of the clouds, although the ship is then near its peak altitude of twelve hundred feet.

The plane tilts suddenly, and within a very few minutes the danger passes.

Yet, to add to his troubles, Byrd finds a vicious leak in the main fuel tank. Gasoline fumes fill the cabin, and he tries to plug the crack with putty, with which he had wisely supplied himself for such an emergency. It does not stop entirely but seeps through

Ready for the jump to France. The *America* on her specially prepared runway, on the morning of the flight.

P. and A. Photos

The arrival in Paris. Forced to descend at Ver-Sur-Mer after flying over Paris in thick fog, Commander Byrd and his three companions receive a remarkable welcome.

until dawn when it stops, only seemingly to confirm his fear that the supply of fuel in the main tank must be dangerously near the bottom.

"How much longer," he asks, "are we going to be able to stay up?"

CHAPTER XII

WITH PARIS BENEATH THEM

THE day breaks sullenly about them—a thin, washed-out graying in the pitchy darkness. Tired eyes look out upon a vast sea of frozen mist, shot through brokenly by pale sunlight. Of the sea two miles below, nothing can be seen. Noville, relieved a moment from his radio duties, tries to shoot a few close-ups of storm formations with the special moving-picture camera he carries, but gives up, disgusted. It's too muggy.

At 6:30 Byrd notes in his log: "We have seen neither land nor sea since three o'clock yesterday afternoon." He is worried about the fuel. His hand mechanically writes: "Our fuel seems to be about gone." For his two pilots he has the deepest praise. "Acosta and Balchen are doing a magnificent job."

A study of the instruments shows that the *America* is living up to all of its promises. The motors are kicking it along at better than one hundred miles an hour, an excellent cruising speed. They interpret it only pessimistically. The gas is gone; the load is light —no wonder the speed!

Yet there is no use in crying over spilt milk—or gas. The decision made, the sole instinct in Byrd is to keep driving on to the last turn of the crankshaft. Then it will be up to him to prove that a transatlantic airplane can be abandoned at sea with some likelihood of the rescue of its passengers. The radio should bring help in time, if ships are near enough and if the

plane holds together. Byrd studies the latest radio reports which Noville has been conscientiously accumulating. An unidentified ship, plowing comfortably below them, has heard their signals, although they are buried in storm-clouds two miles above its decks.

If only the fog would let up a moment, in order that he might get a bearing!

Almost as if in answer to the unvoiced thought, the weather gods relent. Quite without warning, the *America* cuts through a layer of clouds, and they catch a glimpse of the sun. It is a beautiful sight, a spectacular display of supernatural architecture, drenched in gold, and white, and yellow. It is almost an omen and Byrd, enthralled, waits to contemplate it before lifting his sextant. Then as abruptly the *America* knifes into a swirling sea of fog, and the chance is lost.

The morning wears into noon, but there is little to bring excitement. Balchen, a graven figure, holds the wheel in both hands, a half-eaten sandwich forgotten in his lap. The thick, sultry clouds persist. Must they arrive at their journey's end facing this same hazard? Noville manages to locate another ship, obtains a bearing and transmits the information to Byrd. The Commander computes a line on the hydrographic map before him. Now if Noville can only pick up another steamer?

Byrd is convinced a strong cross-wind is pushing them somewhat to the south of their course. As far as was humanly possible, he has tried to calculate the drift and hold the plane to the line. There is always the chance of error. Aerial navigation is not yet a finished art. This first reading shows an unquestionable deviation, but exactly how much he cannot determine.

While Byrd is thus calculating, Noville searches out the steamer *Paris* and exchanges messages. A moment later flashes in the ship's bearing and Byrd translates it into another line on his map. The equation is complete: the intersection of the lines, a pin-point in space, is their exact position. He breathes a sigh of relief.

Cross-winds, he finds, even as he predicted, have pushed them well to the south. It would be folly to attempt to regain the plotted course. Moreover, there is the question of gasoline. Not knowing how much fuel there is left in the tanks, he decides to strike boldly for Finisterre, France, and crisply sends a new compass course to his pilots.

Now the trolley whips in another message from Noville. "Made an error in gas estimate—sorry," it says. "Ship flying in positive position when I made estimate; consequently I could not get accurate reading. Find now we have enough to get to Rome."

To Byrd, who has already philosophically accepted defeat, if not disaster, whose mind has already boldly worked out the final rescue plans, it is miraculous. This, and the mysterious cessation of the leak from the main fuel tank. To this day he cannot explain it. But in that little cabin, catapulting through fog, a speeding dot in limitless speed, it became almost instantly an act of Providence.

"I wish," he writes back, "you had told me that eighteen hours ago."

Exultantly he squeezes forward; and the haste of his entrance causes them to turn around as if one man. "We've got gas!" he shouts. They stare blankly. Then he remembers the motors have deafened them all. "Gee!" he shouts again. "Gas enough to get to Rome!" Still they seem incredulous, and he recalls that he hasn't told them of their predicament.

But the joy in his face is enough. A smile a mile long breaks under Balchen's keen blue eyes, and Acosta, after a two-hour trick, joyfully relinquishes the wheel. A sense of celebration, of keen expectancy the more energized for having been thwarted, enlivens the cabin. While Byrd looks over the instruments, Acosta steps back into the little space behind the seats and lights a cigarette behind cupped hands.

It is a dangerous thing to do. A single spark, injudiciously scattered in that cramped compartment reeking with gasoline and oil fumes, could blow them to Kingdom Come before the radio could squeak a word. But Acosta, with thousands of hours of flying behind him, is aloof from problematical contingencies. Many times during those dragging hours do he and Noville seek the solace of their "smokes."

Of food, however, there is little thought. Byrd drinks sparingly of coffee, having sacrificed his tea. But Acosta and Balchen relish their calories. Like tired men at noon hour, they eat heartily. To bother with niceties! Three whole roast chickens, sandwiches and not a few small cakes disappear without benefit of knife and fork, and with palpable relish.

Early in the afternoon, as they near France, the *America* toboggans steeply down a fat, ugly roll of cloud and they see the ocean beneath them—actually the first sight of it since they stood out to sea. Acosta points elatedly, then tilts the nose and the *America* rises again to struggle with the fog.

The thrill subsides quickly, and all four return to their jobs. There is little moving around: no more than is necessary to comfort cramped limbs. Too, they are red-eyed from staring at the fog; and Acosta, who seems to suffer from it the most, has opened the sliding window on the port side, letting in a hundred-mile-an-hour gale from the propeller which slashes

in his face and streams gustily through the cabin. Balchen, like a sullen Norseman, slouches in his seat, his eyes protected by goggles.

Acosta, accustomed to flying cabin ships and disliking goggles, scoffs at the idea of using them now. His own set are hung about his throat, and his eyes blink painfully in the rush of the gale. How slowly these last few hours drag!

Noville stirs excitedly and tinkers with the radio. They are almost at the threshold of France. From out of the breaking fog beneath them wells up a tumult of radio activity. Unseen ships, near and far, are picking up their signals, calling them. Again Byrd figures their position. They will hit at Brest! They are smartly on their course.

Most desirable augury of all, the mist seems to be breaking. More frequently now the *America* sweeps into great patches of clean air, and they can see the ocean. A clear horizon means a sprint for Paris.

A low-hung headland springs ghostly out of the mist and before their dash melts into flatness. Then little black spots speckle the grayish background. Cities and towns and fields—Brest! They are on their last lap.

Success and his goal so near, Byrd is already framing in his mind a congratulatory telegram to Mr. Wanamaker. It is characteristic of him that he should thus think first of the man who helped him so much. Then, more from instinct than anything else, he suddenly decides to bide his time. Instead, he sends the following order to his radio man:

"Radio Paris at once and get weather conditions there."

Ten minutes later, as the *America* swings inland and speeds along a straight-line course for Paris, the trolley shoots back this reply:

"Outlook bad—fog, squalls and rain."

It is discouraging, this forecast, with Paris not three hours distant. Byrd moves impatiently into the forward cabin, to take his turn at the controls. The worst he had anticipated has come—storm at his very goal. Very well, let it come! They'll ride it out. The plane of the future cannot anticipate ideal conditions. It will be another thesis for aeronautics' yet unwritten copybook.

Even more quickly than they have anticipated darkness and storm ride angrily across their path. The propellers dig in tumultuously, and the struggle shakes the *America* from nose to tail. The shocks come with trip-hammer rapidity, and it is difficult to keep one's footing. Dark? Byrd can't see his hand before his face.

Acosta, now at the controls again, is strangely grim. He is palpably suffering as the rain beats mercilessly into his eyes, and his lips set in a thin, bloodless fixity. Noville induces him to try goggles, but the pilot almost immediately rips them off. It is useless to wear them. The rain splatters them like an automobile windshield in a March bluster.

Nor will he shirk his turn at the wheel. Rather than shift the burden upon his shipmates, he carries on. For possibly a minute—it is all his eyes can stand—he pokes his head out the window long enough to see whither they are heading, and ducks back again, his face streaming water, his eyes blinded. Two minutes later—it now becomes an automatic reflex—he repeats the move. It is punishment.

One hour passes, with Byrd shuttling impatiently between his charts in the cabin and the control cabin forward. His responsibilities have become curiously inverted and doubly freighted. Whereas ten hours be-

fore it was his moral obligation to keep the plane aloft, it is now his undertaken responsibility to bring it down safely, and there are factors forming that tend to show it will be the hardest job of all. So he stands in constant watch over every moving part of his machine, weighing, calculating, planning, his mind conjuring up a thousand problems.

What light there is in the cabin comes from the exhausts—a madly flickering arc of redness on both sides, and in front. Occasionally Byrd uses a heavy flashlight, but sparingly. To eyes dulled by darkness the beam is fiercely blinding.

Toward the end of the second hour Byrd bends over the instruments for a final check, studying the feverish, oscillating fingers. He figures a bit on a piece of paper. They should be near Paris.

A frown corrugates his forehead.

Paris? But where, in that unplumbed depth of fog? Perhaps just below them . . . perhaps a hundred miles away. Flying blind in fog raises hob with all calculations.

"Shall we go down?" Byrd shouts.

"Can't do it!" Balchen bellows back, his voice pitched raspingly against the motors. "We might hit something—a house." Balchen knows well the dangers of a precipitous descent in this country. As an air mail pilot, he had been over this terrain many times.

Something is most decidedly wrong! Byrd checks all three compasses, and his glance races to his pilot. Acosta sits tense, his massive hands enfolding the wheel in a steely grip.

"Bert!" the Commander shouts at the top of his lungs. "Bert!"

The pilot does not seem to hear, but stares out

blackly into the darkness, his eyes fretful under the hurricane of wind pouring into them.

No longer contemplative, Byrd acts swiftly. He pounds Acosta on the shoulder with his fist, fairly rocking the big pilot in his seat. "You are off your course, man! You are flying in a circle!"

The four men are huddled in a tense circle, Acosta in his chair, Byrd directly behind him, and Balchen and Noville flanking him. The rush of air clips Byrd's words out of his mouth with metallic sharpness, and gustily hurls them into oblivion.

The flashlight stabs a dazzling naked hole through the blackness; and in its unholy glare Acosta turns savagely, his eyes red and bulging. His hand gropes for the throttles, suddenly urges them closed and he cuts the motors.

"I'm going back!" His voice rises brazenly, like a flourish of trumpetry, in the suddenly muted cabin. A different, towering Bert. He whirls back to the controls, the motors burst into a screaming crescendo and the *America* wheels abruptly and spurts, they are soon to learn, back toward the sea.

It is Byrd, master of the ship, who must meet the crisis—and act decisively. Instinct and frayed nerves prompt brutal action, but Byrd is, above all, an understanding man. He stands uneasily a moment, his flashlight balancing in his right hand. It isn't an easy thing to do. Yet the lives of all four depend upon his decision. The flashlight swings above his head, and poises there like a bludgeon, and fate that instant straddles the scales two miles above France.

But no! Something in Acosta collapses and in all that bedlam, slowly, dispiritedly, as if the steel springs that make him one of the greatest pilots in the country had changed to putty, the hulking pilot topples from the seat and falls noiselessly into the eight inches

or so of leg-room between his chair and Balchen's. Byrd and Balchen bend over him, trying to drag him free.

Acosta's lips struggle inarticulately; the gale flicks out a few mumbled words.

"Keep 'er going, Dick"—then his lips fall shut, and he slips away into the first sleep he has had in more than forty-eight hours. He has gone on, and on, and on. But the frightful strain of piloting that heavy ship through the first nineteen hours, the merciless beating of wind and rain against his unprotected eyes, have emptied him of his strength, and his nerves have turned brittle. Magnificent Bert, and the salt of the earth!

In the anxious moment that follows, the plane yawls unguided in the storm, swerves drunkenly and tilts into a lung-choking dive. Byrd clambers swiftly over the seat—for Acosta jams the passageway—and grabs the controls. The plane flattens out and then zooms upwards anew. Acosta lies moaning on the floor, and there he is to stay.

Another heart-breaking hour seeps out of the minutes. And still the fog; and still the mad impact of air pockets; and still the sober search for beacon lights to guide them to Paris. The flight of the *America* takes on a quality of furious stubbornness.

Far away and well below the starboard, a light glimmers through the mist and Balchen points it out excitedly. Paris. It must be. Byrd's calculations show it. Hopefully he controls the *America* into a flat glide and races toward it, two miles a minute. And then despair slaps them all in the face. It is not the steady, sky-sweeping beacon light they know to point the way to Le Bourget. Instead it slowly resolves itself into an intermittent, flashing beam. A lighthouse—unquestionably. And instead of being at Paris, they are at the coast, which they had quit hours and hours before.

"Astonishing!" Byrd jots down in his log. "How under heaven did that happen?" He turns over the controls to Balchen, and applies himself to study. A check-up of all compasses soon yields the trouble. The steering compass has gone awry and led them unsuspectingly in a great, sweeping circle.

It is the bitterest disappointment of all, but the men take it with braced shoulders. Byrd wearily computes his position anew; lays a bee-line course for Paris, and Balchen, with never a word, forcibly wheels the *America* about and gives it the gun.

Now for three more throbbing hours in the fog, in the depth of night, in rain so thick it literally batters its way through the propellers. Noville tinkers with the radio, trying to get a message. It has been the same thing since they hit the storm. Useless. The whole world seems to be trying to get them, and it is impossible to weave out a message, a sorely needed bearing. Even at this crisis he is calm.

"Noville is splendid," Byrd chronicles in his log-book. "He is functioning perfectly."

Now they must be over Paris. This time Byrd is sure of it. His compasses check up perfectly. Paris, and warmth, and sleep. But not a single light from the "jewel of the continent" penetrates to them. For an agonizing half-hour they circle over the spot, peering into the thickness and seeing nothing. They dare not swing too low, for fear of crashing into a mountain, or a house. Of what use are instruments now? Even the altimeter is not infallible. Operating on the same principle as the barometer—air pressure—it fluctuates dangerously during storm conditions.

This merry-go-round cannot continue indefinitely. It is costing gas.

"How much fuel have we got?" Byrd asks Noville.

The engineer raps the big fuel tank with his knuckles. It echoes hollowly. So much for that!

Shall they try to land? To search out a landing field? Byrd regretfully shakes his head. More likely than not they'd crash into a house, or dive out of the fog into a crowded street, possibly killing somebody. A pitiful ending for a good-will flight. Again, the odds are hopelessly negative.

Byrd decisively gives Balchen a new compass reading: "Head back to the coast." It is the safest place to go; indeed, the only haven. Perhaps there they will find a stretch of beach. Now begins the most thrilling phase of the whole flight—the dash for the coast with an ebbing fuel supply, into an unrelenting storm and the mad chance that in the darkness they might overshoot their mark and find themselves spilled into the sea.

If fate, moreover, sees fit to bring them down . . . well, in his log-book Byrd jots down this single line: "One chance in a million." They take it.

Out of touch with everything now, although two contients ache to aid them, the *America* races to the little lighthouse at Ver-sur-Mer. The last possibility of connection with the world below—the radio—Byrd orders Noville to jettison. He is afraid that the antennæ cable, which trails some distance below the fuselage, might become a terrible weapon if they fly low.

"Pull it up," he says. "Better be without it than run the risk of killing somebody."

In that storm, with the whole atmosphere boiling, there is no judging their altitude.

Two hours and a half later, kicked along by the storm itself, the *America* picks up the lighthouse. Balchen for the first time in hours shows a trace of emotion. He pounds the wheel with his hand, and shouts. Byrd is elated. It has been really a superb

demonstration of navigation. His course shifted twice since he struck France, he none the less brings back his ship to a specified objective.

Now for the landing, a ticklish job, upon the execution of which hangs not only the whole fate of the expedition, but the lives of all as well.

Over the lighthouse they cruise slowly, trying to pick out a landing place. It is so infernally dark. Byrd orders Balchen to drop lower still, and they come down cautiously, motors turning over at half speed as they pivot on the wing in a spiraling descent. The beat of the surf flows up to them, and they find themselves barely able to pick out the shoreline. But as for the beach itself—it is a shapeless stretch of blackness. Perhaps it is not a beach at all, but jagged rocks.

Under orders from Byrd, Balchen swings the plane beyond the shore, possibly one hundred yards out, and guides it on a parallel while Byrd, thanking his stars for having prepared for such an emergency, tosses a couple of navigation flares into the sea. The projectiles shoot into the water and explode, burning a brilliant hole through the night.

They hardly provide illumination, but give—quite as importantly—the level of the water. To bring down that huge machine at high speed unquestionably means death; distances and speed must be calculated to a nicety. A crash is inevitable. The amount it is dampened will determine whether or not they shall escape without injury.

Byrd instinctively falls into marine ways. "Stand by to land!" he shouts. He orders Noville to crawl aft, the better to distribute weight and avoid nose-heaviness in the last few moments while the plane flutters between the dying momentum of flying speed and descent.

There is no forced hilarity, no doubting or minimiz-

ing the crushing blow latent in those dark waters below. But to the very end there is no confusion. Only a tense calmness. Balchen, upon whose shoulders directly falls this last great responsibility, unhurriedly braces his body against the seat. If there are to be any bones broken, he stands to get it first. His hands toy with the wheel, testing, balancing. A man without nerves, a being of steel and chiseled purpose.

Down, down, down, with the speed easing off from sixty to fifty miles an hour, then almost to forty-five. Balchen is tapering off this potential seven-ton meteor, draining off the last fit of speed by delicate controlling, to reduce the ultimate shock. Suddenly his hand shoots up in warning: "We're going to hit!" His hand falls at once to the wheel . . . a breathless second of waiting . . . the sob of wind through the cabin . . . the muffled, impotent beat of propellers . . . and *crash!*

The shock of water shaves off the whole under-carriage, braced to withstand terrific shock, as if it were no more than *papier-mâché.* The fuselage skids and then sags. Water spurts into the plane through a thousand holes, for the crash has ripped out whole sections of the fabric sides. It is sinking fast, the weight of the motors dragging it down.

Byrd finds himself swimming madly in the water; how he got there he doesn't know. There is a mad buzzing in his ears, the effect of forty-two hours behind pounding motors. He swims through the dismal cold, trying to shed his heavy flying boots and locate his comrades at the same time. Off to the left he hears the sounds of splashing—the only noise in a vast stillness—and he strikes out for it at once.

It resolves itself into Noville, who is clambering out of a shattered window in the fuselage, scarcely hurt beyond a severe jarring up and thoroughly unhappy at the prospect of continued wetting.

"Where's Acosta and Balchen?" Byrd shouts.

Noville doesn't answer, and Byrd, very much worried, swims around the slowly settling wing and heads toward the cockpit. It is, as he feared, well under water.

Are his two pilots trapped?

Just then he hears more splashing right behind him—Balchen, partially caught on a jagged protuberance, and shouting at the top of his voice. Byrd frees him; and the Norwegian, suddenly overcome with a rare linguistic animation, scrambles up on the wing, continuing his spirited, if unintelligible, monologue.

Where's Acosta?

Byrd takes a deep breath and dives into the cockpit, his hands feeling among the jumbled machinery. The pilot is not there. They are now all calling for him, and the unspoken fear is in their hearts that he was stunned by the shock and possibly swept away.

Then out of the darkness comes a cheerful splashing and Acosta's throaty voice calling "Dick, where are you? Are you all right?"

"Sure, we're all fine," Noville shouts back, breaking the tension. "We didn't fly you over here for a swim; come in out of the wet."

Acosta reaches the plane with a few husky strokes, and hurls his lengthy body on the wing.

Their perch is becoming somewhat precarious, so rapidly does the ship fill with water. The leading edge —that part of the wing that first strikes the air—is sunk completely, and each wavelet (fortunately the surf is not heavy) breaks over the wing, drenching them.

Without waiting for the order, Noville is busily preparing to abandon ship. He lifts open the door to the emergency compartment on top of the wing, and brings out Commander Byrd's precious rubber boats, survivals

of the North Pole flight. These he inflates with several bottles of compressed air. It requires no more than a few seconds. The two rubber boats—the "doughnuts," they were called—are bobbing comfortably beside the plane.

Stiff and sore as he is, Byrd wastes a few precious minutes to see that everything is shipshape. He transfers the pack of mail and the prized relics with which Mr. Wanamaker has entrusted him, to the compartment in the wing, takes a last look at the plane that has borne them so faithfully, and enters the boat.

Byrd takes the oars himself, and they make for the shore. It is still dark and raining. All four are dreadfully tired. Byrd himself has had only an hour's sleep in three days. The boat grates on the shore and they discern a cluster of little houses against the gloom. They gather themselves together and approach one of them, only to discover that, after flying nearly four thousand miles, they are barred out by gates.

A boy speeds past on a bicycle. Noville, being of French descent, dashes out to intercept him. The boy's eyes open wide as he stares upon this unkempt group; he screams shrilly and pedals away at high speed. "That," comments Noville, sinking wearily upon a stone, "is a hell of a note."

Thoroughly dejected now, all four set out for the lighthouse. Muscles are strained and rigid, it is painful even to walk. Noville reaches the lighthouse first and pounds mightily upon the door. An old gentleman thrusts his head from a window in the tower and, with unsoftened irritation, demands an explanation for this unholy disturbance. He screams in French.

Noville's attempted rejoinders in the same language only seem to frighten the old gentleman. He disappears a moment and when he returns he is accompanied by his wife. She peers intently in the pale light of the

lantern she holds over her head, and is plainly disapproving. That is the one moment in the time that has elapsed since they left Roosevelt Field that they concede disaster.

Then Byrd has a brilliant idea. By gestures, meagerly aided by Noville's halting French, he conveys to the old couple the idea that he and his comrades have flown from America and landed at Ver-sur-Mer. Their wonder is marvelous to behold. There is a sharp, excited exchange of words, shrill cries, and then the clatter of the lighthouse keeper's boots on the stairs.

The door opens and into the warm shaft of lamplight, the four adventurers melt, miles from the goal, in the heart of the beautiful, unmodernized and simple part of Old France. This closes the amazing log of the *America*.

Surely the story of this most important phase of Byrd's life would not be complete without a recital of the strange and often singular concomitants that rose not only in the United States but in France as well. It is doubtful that the last hours of any other flight bred such frenzy, provoked so much ballyhoo, or threw two continents into such confusion, and yet ended so graciously. There has never been anything to parallel it in aeronautics, and it is doubtful whether there ever will be. The frayed spirits of men who stayed too closely to the center of aviation's stage during the summer of 1927 led them into astonishing exhibitionism, and I often wondered when that vehicle for rapid transit—less delicately referred to as "the wagon"—would come speeding up to our better-known flying fields and begin to cart off the more advanced cases.

The tumult and ballyhoo reached its peak of frenzy and inarticulation during the closing hours of the *America's* flight; and it must forever remain one of

the anomalies of Byrd's life that he, who scorns ostentation so fearlessly and yet holds himself apart from the mob, should be made the vicarious object of one of the most ostentatious and, at the same time, misguided demonstrations since police lines were established around flying fields.

The fact that Byrd had started the day Hegenberger and Maitland were racing their *Bird of Paradise* monoplane across the Pacific on what was to turn out the first successful crossing to Hawaii tended to destroy the placing of full emphasis and attention on the *America.* The Atlantic, after all, had already been spanned twice, and here was the Army striking out boldly from the west coast. But there was a glamour to Byrd's name and the eastern editors, through some curious alchemy of intellect, regarded the Atlantic Ocean as their own front yard and whatever transpired there, as distinctly local news. So, when the Army's Fokker touched at Hawaii, there was a mighty splash of headlines, the rattling of a few editions; and then the press spontaneously turned over its columns and its resources to Commander Byrd. Toward the end of the second day, when it seemed a foregone conclusion he should reach Paris, every heartbeat of the nation's press waited upon his progress, and the trumpets to hail him were striking the first few brassy practice notes.

The actual, and truly intimate, celebration, however, took place at Roosevelt Field. Grover Whalen, who had so capably handled New York's mighty reception to Lindbergh, was master-of-ceremonies and, as Mr. Wanamaker's own personal representative, was certain to impart a quality of pomp and circumstance to the affair. Certainly no celebration was planned more elegantly.

All day long, while the *America* pushed through the

fog, and the four men in her cabin fought off sleep with dogged courage, the master artists were touching up the hangar it had quit until it fell little short of a ballroom. Great flags draped the calcimined walls. Potted palms and ferns were artistically distributed through the barnlike structure, and big delivery trucks wheezed in and out the back entrance, depositing great cargoes of sweets and foods. Outside some workmen, after some confusion over the determination of the specific spot, had planted a Tricolor and an American flag at the exact spot at the foot of the mound where the *America* began its heart-breaking drive.

The moment the news flashed over the wire that Byrd had landed, it was decided, the celebration would be begun. To accelerate the transmission of the news, a direct wire had been cut in between Roosevelt Field and Le Bourget. And, toward nightfall, when it was reported that the plane had been sighted over the coast and was speeding inland, the mob—newspapermen, spectators, unoccupied policemen, hangers-on—to a man gravitated toward the telegraph key. Each bit of news was hungrily snapped up. Even the ordinarily unaffected newspapermen, between whom and Byrd had sprung up a truly extraordinary affection, responded to the excitement.

Then the wire clicked out the dire tidings that rain was falling in Paris, visibility was poor and there was genuine fear that Byrd would have considerable difficulty not only in effecting a landing but also in locating the field. The rain was reported to have thinned out the crowd.

Time stretched out drearily. The wire tapped out that the commandant at Le Bourget had sent up several scouting planes, and that these had returned without sighting the transatlantic visitor . . . the beating of

a distant motor was heard by some over the outskirts of Paris, and then it died away.

Faces became long, and another crowd, held at bay by ropes squaring off the hangar entrance, clamored impatiently for news. Mr. Whalen, his face become very worried, appeared and told them there was none. He assured them there was no reason or basis for fear. It was simply that the storm had cut down the speed. The wiser ones, however, were frankly skeptical. "What's the matter with his radio? If he isn't down, he'd have signaled."

That was too much for the already harassed Mr. Whalen. He retired to his elegant administration offices, and pondered deeply. Meanwhile the waiters and the chefs assembled for the occasion, having been imported from one of the swankier Park Avenue restaurants and therefore peculiarly susceptible to the responsibilities of their calling, were becoming impatient over the delay. The buffet supper had been prepared with no little care in expectation of an early landing. The sandwiches were beginning to sag and lose their crispness. "But, M'sieu, eet is very aggravating, is eet not?"

Then at seven o'clock, even as twilight was falling, the telegraph key went into action fortissimo. The crowd surged about the unprotected operator. An obstreporous local policeman, intent upon being in the thick of things, pushed his way into the space reserved for the press. A reporter protested, and the policeman hit him. Whereupon the reporter slugged the policeman, and, above all things, the policeman meekly retired. And the telegraph was spelling out: "Lands at Issy Molinyeaux."

To those who saw it the release of emotions was as if by detonation. Hats rose in the air. Mr. Whalen bounced out of his office, and almost magically formed

a parade. From some dark corner of the hangar evolved a complete band: drums, cornets, and bugles. There was a brisk marching tune, and the officers of the American Transoceanic Company swung in a body through the ropes.

The hangers-on and those barred from entrance to the hangar joined in zestfully. Some one with a ready brilliancy spied a clergyman and shanghaied him into the parade. By the time the parade reached the mound it had attained magnificent proportions. The officials grouped themselves with palpable awe and dignity about the flags.

Some one pushed the clergyman forward. Abashed at the suddenness with which he found himself at the front of the stage, he stammered and looked despairingly for advice. He whispered a prayer of thanksgiving for the safe landing. The ground was blessed. There were many pretty speeches. Indeed, the impromptu orators were barely warming up to the meaty part of their eulogies when a hatless man dashed out upon the field and screamed at the top of his lungs:

"You're all wrong. He ain't down. He's lost!"

The thing collapsed. The cheers choked off. And all this panoply and charged-up ballyhoo seemed instantly to become inane, inept and poor taste, with those poor devils still lost, perhaps down in the sea, or crashed.

Nor was it possible, even when another false report trickled in, to revive emotionalism. It was as if that group had sensed the hidden dignity of Byrd himself.

CHAPTER XIII

THE WHYS OF SUCCESS AND FAILURE IN THE AIR

I MENTIONED before, that the forced landing of the *America* at Ver-sur-Mer tended to rob Byrd of a tremendous amount of credit that is due him. It is unfortunately a fact; yet, while asserting it, I may be guilty of judgment on an artificial set of values. Certainly there was not the protracted ballyhoo over his flight that lingered in the wake of the two preceding crossings. And custom has compelled us to reduce fame to the number of eight-column streamers a name can conjure up, and the size of the crowd the good Grover Whalen and his reception Committee can stimulate within the broad plaza of the Battery.

So, while I lament an inadequacy, I shall protect myself by pointing out its inner inadequacies. My personal intimacy with Commander Byrd forces me to say that the situation never disturbed his peace of mind.

What was truly unfortunate about it all—and with this every student of aeronautics must agree—was, that in the high-spotting of the sensational phases of the flight, much that was important, and that will become increasingly more important as other flights are made, was either sidetracked or completely ignored. Scientifically, curiously enough, the flight was one of the most spectacular ever made. More than any other flight, it truly indicated the course of evolution the transatlantic plane of the future must follow. It broadened and gave substance to the promise of Lind-

bergh and Chamberlin and, at the same time, in its hurried landing startlingly illuminated an obscure field of research. When transatlantic planes are built, the safety factors that Byrd deemed so indispensable will be in them, and largely because of his experience. Not many transatlantic tourists will exchange steamers for airplanes if the possibility of a precipitous descent at Ver-sur-Mer is strong.

Too, how many of those within his own fraternity neglected to heed the warning signs which he himself displayed? It was a broad and thrilling roll of honor they wrote that year—but the disasters marched step by step with success, and the faith the public had in May and June came perilously close to utter collapse by October, as plane after plane, setting out upon high emprise, throbbed into distant horizons and vanished, never to be found. Why was it that Byrd, Lindbergh and Chamberlin succeeded, and the others died? And what chance have the others who will follow?

In the winter of 1927, I was a guest at Byrd's Boston home, and the conversation had drifted into a discussion of famous flights and, inevitably, of the great flight-to-be that inexorably vanished into the limbo that holds the collier *Cyclops*. In its brilliant surge during the summer of 1927, aviation had not felt alone the first fine flush of success. An almost unbelievable succession of disasters choked up the popular enthusiasm. In May there had been the two French tragedies, Nungesser and Coli, flying from Paris to New York, and St. Roman and Mouneyres, lost somewhere in the South Atlantic between Senegal and Brazil.

In June, while Chamberlin and Byrd were streaking across the Atlantic, and Hegenberger and Maitland were writing history between San Francisco and Hawaii, Europe was chalking up red letters in its

aeronautical ledger. Carr and McWorth, crack British flyers, flopped abruptly to earth barely eighty-five miles out on an attempted flight to India; and the French flyer Pelletier D'Oisy, essaying a non-stop flight from Le Bourget to the same destination, was flung from his blazing machine only two and one-half miles from the starting-point.

Yet it was in August and September that widow's weeds became the hallmark of the wives of transoceanic flyers, and the trumpetry that called for new conquests fell sobbingly into lament. The turn came drastically with the Dole Race to Hawaii, over the same path Hegenberger and Maitland had carved. Three men were killed before the race actually started. The public became suspicious, fretful. But before it could act, the race was on. Only two reached the goal, and three went into the sea, lost. It had been ballyhooed as the race to glorify the pineapple. It glorified only the courage of men, hopeless perhaps, and the fact that, the prize being alluring enough, the will to try will ignore the hazards involved.

Then Paul Redfern hopped from Georgia, and Buenos Aires was his goal. Somewhere above the Caribbean his motor fluttered out. And, four days later, the Princess Lowenstein-Wertheim, the first woman to fly across the English channel, with Captain Hamilton and Colonel Minchin as her crew, started out from Uphaven, England, in a single-engined Fokker, inspired with the laudable ambition of being the first woman to fly across the Atlantic. They vanished.

Capt. Courtney, another British airman, who during the year set an unequaled record for abortive starts, hummed out of Plymouth, bound for the Azores, and seven hours later retreated hurriedly to Spain, frustrated by storm. Three men went down in the single-engined *Old Glory* which rose after a back-

breaking effort from Old Orchard Beach, Me., and pointed its nose to Rome. And only a day later, the *Sir John Carling,* also powered by a single engine, spun out of Newfoundland, almost on *Old Glory's* tail, and presumably expired in the same storm.

More than thirty deaths within a few months. The world recoiled. Foreign governments, driven by public opinion, arbitrarily ordered suspended long-distance, transoceanic attempts. And throughout the world rolled the cry: "Don't let 'em die," a phrase that came from Byrd himself in a private conversation. The accumulation of criticism, lashed by the press, was enough to deter the light-hearted globe-girdlers, Brock and Schlee, as they poised their plane at Tokio for the last, desperate series of hops across the Pacific. But not enough to crush the inner ambitions of Mrs. Grayson, who sold real estate but aspired for the greater things singing motors promised a stout-hearted woman.

On December 24, the night before Christmas, she and her crew of two hopped off from Roosevelt Field, bound for Newfoundland and thence to Norway. Dr. Kimball, the airman's weather prophet, told her the worst. He is a kindly man, and stern, with a strong conception of his responsibilities. She merely smiled. She never reached Newfoundland, and her fate and that of her crew remains as great a mystery as any.

Stout-hearted stuff was this kind of effort. It had all the thrilling condiments of any pioneering movement. There was an undeniable glory in trail-blazing at more than one hundred miles an hour. But the glories many of them would have wooed, I fear, were a bit more mundane than the purer flames of science. The effusions of sob-writers and the enticements of the rotogravure, the repercussions of publicity, and the pot of gold at journey's end—all these, it must

be said, hastened the flight of more than one little ship down the transatlantic runways, and filled the ocean graveyards with more than one broken ship.

Nowhere was it better realized than within the inner circle of the aeronautical industry. And no one realized it more clearly than did Commander Byrd. Although he has done perhaps more than any other individual to demonstrate the incomparable mobility of the airplane by striking experiment, he none the less recognized its inward limitations. It took courage to do that. For the spirit of aviation was flying high, and in its exultation was impatient of defeat.

"I know that it would be a splendid thing to say that a flying machine is the safest thing in the world, and that transoceanic service in land planes is just around the corner," he told me. "It will be a glorious step in the perfection of communication when a New Yorker, say, can board a plane here and start for Paris, secure in the conviction that he will reach Paris expeditiously and without danger.

"Undoubtedly that day will come, but it is still some distance off. There are not a few dangers in a flight of that sort, more than are tolerated in the margin of safety usually accorded a passenger. There is much still to be learned about airplanes, and about air currents. Only by painstaking experiment and unmitigated effort can we learn, for the airplane is not yet a perfected instrument.

"And more lives will probably be lost, and millions of dollars spent. That, too, is inevitable. It has been the history of any pioneering undertaking. The initial progress comes only after much groping after the facts, and a system of trial by error probably obtains more frequently than pure mathematics.

"Yet, in rushing so quickly to indict the airplane for the lives that have been lost, we have forgotten

the toll exacted from pioneers in other branches of science. In medicine, engineering, physics—one might go down the list—men have willingly laid down their lives to add another fact to the library of science. The archives of science are mainly monuments to brave men who perished in noble, but sometimes futile, experiment.

"The line between the sublime and the ridiculous is sometimes very faint. We can only be guided by the conscience. In the case of the airplane, which offers a striking example, the danger came when science abruptly succumbed to hysteria and emotionalism. Then the idealistic side of pioneering became obscured, and much of it fell into exhibitionism. There was real basis for criticism. The loss of lives, in the minds of many, seemed not only unnecessary, but morally reprehensible.

"No doubt there was behind many of these flights that never finished a sincere ambition to enhance the prestige of aviation; to teach the world that it is safe to fly; to unite nations by reducing the distances between them. But the purest idealism has factual boundaries. And an airplane is really nothing more than a thing of motor, wing and man. It is no stronger than the weakest of these three elements.

"Yet it would be absurd to legislate against spectacular flights simply because they are dangerous. To set a precedent such as that would be to stifle the urge to create; it would choke progress. The successful spectacular flights—and by spectacular I mean those that depart from the common and the everyday—are the peaks in aviation's curve.

"Let us, however, maintain strict watch over them, see that they are carefully and conscientiously planned. I do not mean that we should exercise a censorship. Rather I mean constructive encouragement. In that

way can the nation promote true scientific advancement, along sound laboratory lines, and with a minimum of fruitless and often fatal effort."

Byrd said that in 1927, at a time when there was much doubt in the public mind about the moral privileges of letting men commit suicide in the interest of international goodwill. Many people were very skeptical indeed about the validity of that sort of thing. There had been much work for the attachés at the American embassy to placate the Frenchmen who stormed its doors after Nungesser and Coli had disappeared, charging that inaccurate weather reports from this side of the water had contributed to the fatal causes. Of course it was a ridiculous charge, but hysterical men are not necessarily sound. Goodwill lies on perilous foundations.

And I know for a fact that the inner circle of the flying industry was of the same opinion as Byrd. They wanted sanity in aviation. The industry was on its feet, financially speaking. Companies that for years had kept one step ahead of receiverships were becoming opulent. And Wall Street was beginning to divert some of its golden streams into laboratories and transportation companies.

When Lindbergh flew three thousand one hundred and ten miles and reached his precise objective, the heavier-than-air machine had justified the most extravagant promises of the Wrights. When Chamberlin, two weeks later, carried a passenger to Germany and simultaneously established a new record for sustained flight, he proved that Lindbergh's accomplishment was not luck. And when Byrd's tri-motored Fokker pushed through storm and fog for nineteen hours, held brilliantly to its course, the world was offered final and conclusive evidence that an airplane can

be successfully navigated to its goal under the most distressing conditions.

These, many felt, were enough for the moment. The wiser men were for holding everything down, and deflecting enthusiasm into more immediate channels—the growth of aviation in transcontinental, or overland service. Progress would come; laboratories would factualize the unknown in performance. In time ships would be built safe enough to fly the ocean. But meanwhile, they wanted to soft-pedal the non-stop melody; to keep good men and good ships from piling into the sea. It was impossible, as the records show.

What happened to the poor devils? What happened to Nungesser and Coli? Bertaud, Hill and Payne? To Hinchliffe and the Honorable Miss Mackay? And to a dozen others. Such a question I brought to Byrd. It is one that comes instantly to the mind of any layman when the future of transoceanic air service is discussed.

The answer was not immediately forthcoming from the motor builders. Indicted though they were by unthinking critics, motors could hardly be blamed for all the disasters. The frantic messages from the few missing planes that carried wireless sets never complained of failing motors. No, quite obviously the fault lay elsewhere. Perhaps the plumbing (oil and fuel lines) broke. Perhaps the pilots were at fault. Perhaps even the plane itself was structurally weak. Under such circumstances the motor could hardly be blamed. Bad weather, too, undoubtedly contributed.

Of course such analysis must remain speculative, but from that it was possible to build a sound and comprehensive hypothesis in which not only the motor builders but the flyers concur. It is that failures cannot be traced exclusively to any one source, and that the blame, if any, must be distributed among many

factors—weather, pilot, motor and perhaps the plane itself.

There was altogether too much excitement in the summer of 1927 to permit a scholarly study of the facts. Success overlapped failure, and failure success, so rapidly that the calm detachment so necessary to fact-finding was impossible. Much that was significant escaped notice and much that should have been told, in my opinion, never came out in the newspapers.

It was a curious thing that the Lindbergh Legend was so firmly rooted in the minds of newspaper editors that any "pointing with alarm" would have been repudiated as high treason. Lindbergh had made the crossing. Within a day and a half he had endowed the airplane with infallible resourcefulness. Not even the failures could dim that legend.

Even that sober young man, whom no praise can rob of a proper judgment of values, found himself fettered by it. When the Dole Race flyers were lining up at Oakland Beach, California, and conservative-minded officials were denuding their skulls in despair, he sadly remarked to a friend: "Some of those fine fellows are going to kill themselves yet." He knew of the uncharted hazards in transoceanic flying in land planes.

I remember, too, a conversation I had with Commander Byrd about the same time. The papers were full of ballyhoo from the Pacific. Great things were predicted for science, even while a vague uneasiness sifted through the sub-surface channels of the industry. Certainly the race was not lacking in glamour—of a very brittle kind. Byrd was not misled.

"Flying the ocean in a land plane at this stage of airplane development," he said, "is not merely a matter of jumping into an airplane and giving it the gun. It's a serious business."

But naturally neither of them could come out with this publicly. How would such a statement have sounded, coming from the men responsible, in a way, for the faith men had come to have in the airplane?

What Lindbergh and Byrd knew then—what Chamberlin and Levine, Balchen, Noville, Acosta, Brock and Schlee, knew—was that courage and ambition were not sufficient to guarantee success. These men had poured months of labor and study into solving the problems of flight. But at best, when confronted with the actualities of an ocean crossing by air, it proved little more than primer book-learning. The ear-deafening, mind-deadening harmony of the motor; the unending fight to keep sleepy eyes upon instruments hour after hour; the strain of holding to a course and watching, ever watching, the half-dozen needles that bridge the gap between life and death; the pitiless cold and the threat of ice-forming sleet—this was the unplotted and indeterminable human element in the equation. Even a perfect motor could not alone bring success if the human mind failed in its terrific task.

Months after his flight had passed into history, Byrd pored over his notes, drawing conclusions, consulting with authorities, in an effort to codify this new system of learning and to arrive at a thorough understanding of the factors behind a successful flight. A master of detail, he omitted nothing; and the scientist in him distilled the glamour of the thing into cold essences. Besides, his study of transatlantic flying went back to 1918—when many of these young men were in school.

In an article in the May 26th issue of the *Saturday Evening Post,* Commander Byrd listed seven major causes of disaster on a lengthy ocean flight. They are:

Crash at take-off due to overloaded plane and too small a take-off field.

Forced landing from single engine in an unseaworthy plane.

Crash in fog or darkness.

Ice on wings and fuselage, forcing plane down.

Fuel out, due to extra hours of flight needed as a result of faulty navigation.

Inadequate instruments for flight.

Inexperience in flying in fog with instruments.

Three paragraphs in that article—which was entitled "Don't Let Them Die"—are noteworthy.

"Are we going to sit idly by and watch these young Americans go to their deaths, as so many are bound to, and never raise a hand to try to stop them? I personally, and with the greatest reluctance, venture to protest, because so many of us suffered last summer, seeing plane after plane get ready and go when we felt their chances of success were so pitiably slight. Yet whenever I undertook to point out the lack of planning and equipment to some of the other flyers I was always met with: 'Well, you took big chances, didn't you?'

"The trouble was that in the confusion of that wild and unforgettable summer of 1927 we were all lumped together as a sort of a fraternity, of which the members were heroes in public and clowns in private; idols if they lived, and quickly forgotten if they died.

"I have been urged strongly to speak. For months I have wondered if it were my place to do so. I can no longer remain silent. I feel that the lives of splendid people are perhaps involved. I hope this is not presumption on my part. It simply happens that I have given many years of time and thought and investigation to the problem of long-distance flights, ever since 1918, when I began flying out of sight of land to test the possibility of navigating an airplane as a ship is navigated."

This he said in the spring of 1928; and even then the motors of half a dozen aerial Columbuses were setting up a throaty clamor on both sides of the ocean. And only a few days before, the Junkers metal monoplane *Bremen,* a beautiful ship mechanically, spilled out of the skies in a flurry of snow at Labrador, and its crew of three—two Germans and an Irishman—didn't know whether or not they were in Westchester County or Hudson Bay. It was a timely warning, sincere and tempered with wisdom. But men will try, and men will blunder across the ocean in land planes until laboratories, which must lag behind the lash of desire, are able to make it safe.

It will be noted that, in his list of probable causes, Byrd gave prominence to the dangers of load. Newspapers made a great deal of ballyhoo over "load tests" during the preparations for various flights, but it is doubtful if many readers realized what they involve. By "load" is meant the weight the motors are forced to carry. In its broadest sense, the term includes everything—plane, motor, pilot, fuel and oil, supplies and equipment. Naturally, the efficiency of a motor, or rather its capabilities, varies with the amount of load carried, and only by careful testing, could flyers estimate how much fuel they would have to carry to complete the trip; and, above all, whether or not their planes could lift from the limited runways such heavy loads as were required for the Atlantic crossing.

It was a comprehensive study of a new kind of a problem in aeronautics, and it necessitated correlating a whole system of aeronautical learning. The flyers had to take into account the need of special protection for motor and fuel lines against vibration, the fluctuations in lift in changing atmospheric conditions, and a thousand and one seemingly obscure but vital details. It was new and, therefore, somewhat dangerous.

Keenly appreciative of the hazards of the take-off, Byrd personally directed a search for a suitable landing field that lasted two years and embraced an area extending one hundred and fifty miles west of New York. The flat plain at Mineola, Roosevelt Field, was the most suitable. Yet it needed much attention; no less than thirty thousand dollars was spent within a few months to erase natural hazards and make it safe for a take-off. This was Byrd's immediate concern, and he saw to it personally that it was done as well as possible. Even then he was handicapped.

First of all, there was the necessity of waiting for the down-the-runway wind, for the extra lifting power and the imperative control over the plane it alone could give. And, finally, there was its frightful shortness. I have already described Lindbergh's and Byrd's take-off, and that of Fonck's Sikorsky the year before. More than any mathematician's equation can give you, they demonstrated what the problem of load means to the transatlantic flyer.

Nature has decreed that in the airplane the load shall not exceed a certain limit without danger. The technical phrase is "power loading"—how many pounds of load a single horse-power of motor energy must be called upon to lift. Twenty-four pounds per horse-power, the mathematicians have calculated, is about the maximum a motor can lift from the ground with a consequent sacrifice of maneuverability, speed and safety. Loaded much beyond that a plane can't fly—no more than an automobile can lift itself from the ground by its fan. The greater the load, the greater the power required to sustain it. The power output remaining constant at a maximum number of engine revolutions, the load, naturally, must be limited.

Now in the case of transatlantic flights, because of

the great distances to be covered, the great volume of load capacity must be allotted to fuel and oil; not only enough to make the flight, but also a margin of five or six hours in the event of increased consumption due to headwinds or miscalculation of winds. As a result those planes that took off last year got under way with a power loading that touched the last thin rim of safety.

Probably the most dramatic example of that limitation was the crash of the *S-37*. With its three four-hundred-and-twenty-five-horse-power Gnome-Rhone-Jupiter motors straining against an inertia of twenty-eight thousand pounds of load, it bumped laboriously down the runway, clumsily gathering speed. From the start it seemed written it could not get off, Again, there was the mad experience of the *Bremen*. The thrust from Baldonnel field, Ireland, the howl of the propeller, and, with only a few feet of safety left, it flung itself loose, barely in time to escape decapitating a flock of sheep which stood riveted in terror.

The problem of critical load! None realized it better than Byrd, or prepared for it more earnestly. Nor did any of the flyers lay more under its strain than he did in the *America*. The problem is just as great to-day, and while the world talks optimistically about transatlantic passenger service, he wisely points to the limitations. For the problem of excess loading does not subside after the take-off. During the first hours of the flight, while the plane is working off a fair percentage of its fuel load in actual engine consumption, the mechanical and mental hazards continue. Here was a source of danger to which not a few of those who attempted the transatlantic flight failed to give proper attention. Possibly for the first ten hours, the planes are sluggish to the controls. The climbing

speed, controllability and horizontal velocity vary inversely to the power loading.

This sacrifice of maneuverability, Byrd has repeatedly pointed out, for a maximum fuel loading is particularly dangerous in view of the peculiar meteorological conditions prevailing over the North Atlantic. I refer specifically to the danger of meeting storms or ice-forming sleet, when a heavily freighted plane might lack the power to climb clear of the clouds.

Byrd himself barely hurdled such a possibility three hours east of Newfoundland. Not so fortunate was the *Old Glory,* a Fokker monoplane powered by a single-engined Bristol Jupiter in which his good friends, Lloyd Bertaud and "J. D." Hill, and Philip Payne, New York editor, went to their deaths. For some reason, a fatal premonition followed that plane from the day it landed at Curtiss Field. It persisted throughout the long weeks it waited impatiently at Roosevelt Field for the west wind. Finally it was flown to Old Orchard, where the beach offered a two-mile runway and winds that were generally favorable to a take-off.

That the ship was loaded to the breaking point was no secret. Indeed, it was doubted at first whether or not Payne could be carried along. The additional weight—just two hundred and twenty-five pounds—might mean, it was feared, the difference between safety and disaster. "She's loaded to the hilt," Hill told a friend just before the take-off, "and a bucket of ice will bring it down."

Like the other eastward-bound flyers, Bertaud had counted upon getting a generous amount of altitude by the time he reached the "corner" at Newfoundland, to capture the benfits of the prevailing westerly winds which would sweep them to Europe. But on the nightfall of October 6, when *Old Glory* lumbered over the

steamer *California,* she wasn't three hundred feet over its decks.

At 4 A.M. the next morning its wireless sputtered, "SOS. Three hours east of Newfoundland." Then silence. Perhaps it was ice that brought it down; or perhaps the motor failed. At any rate, the plane must have landed with terrific force during the night. The fragment of the wing that was recovered was ratched and splintered, as if by tremendous impact. With all their skill, the pilots couldn't safely land that ship at night with its great load.

When Byrd sounded the call for sanity in trans-oceanic flying, he had no intention of indicting the pioneering impulse that motivated these flights. What he wanted, and still pleads for, was an understanding of the dangers. He knew what many others less experienced in their craft either ignored, or didn't know. He knew that long before 1927 there was plenty of precedent illustrative of the hazards of flying with a heavy load. In the excitement of one summer we were inclined to forget the lessons so painfully learned in 1919: in the first crossing of the Atlantic by the *NC-4;* in the subsequent non-stop flight by Alcock and Brown which, for sheer daring and enterprise, must be considered one of the most spectacular of human undertakings in the air; and in the abortive attempt of Captain Hawker whose miraculous rescue in mid-sea was singularly similar to that of Ruth Elder and her somewhat obscure pilot, George Haldeman, in 1927.

Byrd had gone through that early school of trans-atlantic aerial enterprises and, while planning his own venture, keenly appraised its limitations. He had been on the ground during the frantic efforts at weight-trimming to which the American naval flying boats were submitted—when weights became not a matter of hundredweight, but critical ounces—and knew of the

lamentable failures of the single-engined Martinsyde scout and the four-engined Handley-Page bomber.

Load: it was as critical a problem in 1919 as it was in 1927. The heavy, water-cooled Rolls-Royce engines used by the British flyers, and the Liberties used by the Americans carried a maximum power loading. You remember how Hawker and Grieve, to meet this problem as efficiently as possible, dropped their landing gear immediately after the take-off. Eight years later, Nungesser and Coli, immediately after their take-off from Le Bourget, jettisoned their under-carriage in the same manner.

Then as now, the immediate limitations of the heavier-than-air plane and the uncompromising boundaries of power loading were clearly shown.

Yet, as Byrd has repeatedly tried to point out, excess loading should not be blamed for all transoceanic flight failures. Three other factors undoubtedly contributed their share. We may call them meteorological, mechanical and human. I have already pointed out the decrease in maneuverability brought up by over-loading. Suppose a plane meets a heavy storm as the *America* did. For one thing, a fight against a storm necessitates a wide-open throttle and a costly consumption of gas. Again, if the wind is strong enough, it may force a heavily loaded plane out of control.

This is particularly true in the case of ice-forming sleet. Most of the transatlantic flyers encountered sleet, the greatest menance of all. It solidifies on the wing, changes the wing curve, adds weight and resistance and, in time, will bring a plane down.

"Ice comes so quickly and silently," Byrd told me, "that I look upon it as one of the most sinister perils a pilot has to face. I have been flying through summer sunshine, suddenly encountered sleet and found

ice forming almost instantly. On a big plane a paper thin coating of ice on the wings may in space of five minutes mount into many pounds of gross weight."

Not all the flyers knew how to avoid it. Did not the Navy's hydrographic charts show warm waters clear across? What they failed to realize was that, even in the temperate latitudes, freezing temperatures prevail even during the spring and early fall, above eight thousand feet. Again, as Byrd has pointed out, they did not know that when flying in temperatures much below the critical reading, the danger was not so great.

The stormy morning, the second day out, Byrd put that intelligence into effective use when he ordered Acosta to climb clear of clouds, where the mercury dallied at thirty-two degrees, into the clearer, colder atmosphere above.

The possibility of motor failure engrossed Byrd's study. For all the progress made in motor design, in the broadening of safety factors and the elimination of weak parts, any one of a dozen things can cause what is commonly known as motor trouble. The most common is the failure of the plumbing, or oil and fuel lines. Unless these are in order, no motor—and by this is meant the operative mechanism as distinct from the accessories—can function.

An airplane motor being a high-speed unit, there must be a certain amount of vibration which affects the less solidly fixed parts. Naturally, the slender gas and oil lines come in for an unavoidable amount of strain and, under transatlantic flight conditions, the danger of breakage or stoppage is fairly high.

For instance, Byrd took the precaution of encasing all oil and fuel lines with tape and rubber hose. Not only did this tend to strengthen them and lessen the tendency to vibrate, but it also insured a minimum

amount of seepage if the line itself should give way. As an added precaution, he had installed a system of parallel lines by which the motors could be fed from each tank separately or from all tanks; and a dual system of lines insured an emergency reserve in the event of the shattering of one.

Not so wise were Tully and Medcalfe. They accepted their plane, a single-engined Stinson-Detroiter, as it came from the factory, put it through a series of tests, and hopped from Newfoundland. Perhaps a shattered line brought them down. The failure of Ruth Elder's *American Girl,* a sister ship, was due to the breaking of an oil line.

On this point Commander Byrd stood squarely with Charles L. Lawrance, builder of the famous Wright Whirlwind. A calm, dispassionate man, Mr. Lawrance recognized the dangers of the "non-stop" hysteria, and he did not hesitate, for all it might mean in the matter of dividends, to call attention to the gap between the heavier-than-air craft of to-day and its perfected successor of the future.

"For all the advance made in aeronautical engineering," he said, "the equation to-day remains about sixty per cent motor and about forty per cent pilot. Recent endurance flights, for instance, have proved that, provided a pilot knows his business and recognizes motor limitations, the airplane power plant can be counted upon for perfect performance up to sixty hours, uninterrupted, at least.

"But a motor is like the heart mechanism. It can stand so much punishment. Pushed beyond a reasonable limit, something must go."

What of the human factor? What is transatlantic flying like to the man in the cabin? What sort of a strain is it?

One of the parts of the lesson of warning Byrd has

sought to drive home is the physical strain inherent in a prolonged flight. It is one thing to pilot a plane through a starlight night. But to pilot it through fog and storm, hour after hour, while the eyes watch the instruments, the bank and turn indicator, the compasses, the tachometer and half a dozen others, calls for perfectly coordinated mental and physical mechanisms.

The eyes grow fatigued tracing the movements of flickering needles. The rise and fall of the motors becomes a sing-song rhythm. Yet wakeful attention to the instruments is imperative. In the night they alone show where the horizon is, how high a plane is flying, how far it has gone. Nothing can be distinguished in the blackness outside the cabin window.

In lectures and magazine articles; in informal discussions at dinner tables and on flying fields, Byrd has stressed the mental hazards of flying blind. It takes long training to acquire the knack of it. Years before, when planning for his transatlantic flight, Byrd prepared for it by much actual practice. Few of the flyers who headed out to sea in 1927 did so. Possibly that is why they never came back.

"From my own experience and that of others," Byrd has written, "flying blind is not a gift. It must be learned in experience; and the last place in the world to begin that study, I believe, is the middle of the Atlantic Ocean. One must, properly to understand the situation, imagine oneself in a plane, in utter darkness, with not a single light to guide the way.

"The plane may dip a bit before the senses respond to the destruction of the balance. The pilot pulls it back hastily, perhaps too hastily, and the ship begins to turn in a wide, undetected curve, the wing falling lower and lower from the horizontal. Then, before he knows it, he is in a spin."

The incident on the *America* was graphic enough.

But the crash of Captain Erwin in his swallow monoplane, *Dallas Spirit*, drove home a powerful moral. After the Dole Race debacle, Captain Erwin, who had been forced back by engine trouble, set out to look for the missing planes.

A radio informed the listening world that the lights in his plane had suddenly gone out. Then it called out of the darkness: "SOS-SOS! We are in a tail-spin." A moment later there came a reassuring message that they were out of it. Radio operators breathed more easily.

Then again the distress call crackled in their ears. It faded inarticulately, presumably choked off by the crash. Little imagination is needed to conjure up what happened.

It was really rather hard to get pilots to pay proper attention to instruments that year. Schooled in overland flying and somewhat proud of a developed instinct for direction, many of them were reluctant to load up their planes with modernized instruments. Yet they were facing a most involved task in navigation. It remained for Byrd, recognized as one of the most masterly navigators in aeronautics, to take the greatest precautions.

Good as compasses are, they are not infallible. The magnetism in the metallic parts of a plane, for instance, is a common cause of error. Vibration, as happened in Chamberlin's ship, may shake the instruments into uselessness. And the determination of position calls for no mean ability. I refer to the magnetic variation. This is caused by the fact that the magnetic pole, toward which the compass points, is twelve hundred miles south of the true Pole; and the rate of deviation, being fairly great in the northern latitudes, and changing with variation in geographical position, cannot be determined without some knowledge.

Of course it was involved and difficult, peculiarly so in view of the fact that aerial navigation is, at the moment, an obscure science. But to Byrd's factual mind it was one of the great problems of the flight, and he grew impatient with those who ignored its importance. Besides the earth induction compass, he equipped the *America* with several regular magnetic compasses, each of which was to check up on the other. Had he not gone forth so armed, he might never have regained his course when the steering compass led them far off their course over France.

He had studied the drift caused by wind, and equipped himself with flares for its detection at night. And, finally, he had faith in the radio. This last must be recorded as one of the greatest contributions of the flight to science. To-day, in view of the disasters, a long flight without it must be recognized as foolhardy.

The fact that Noville, an inexperienced operator whose sole knowledge of the instrument came from a few hurried lessons before the start, was able to communicate with vessels at sea and thus enable Byrd to check up on their position, was conclusive evidence of the priority of radio in aerial navigation. It is almost the sole—and unquestionably the most nearly infallible—instrument against fog and storm. When transatlantic flying falls into the category of regular transportation, all planes will be most thoroughly equipped with wireless apparatus.

Another important contribution made by Byrd was that pertaining to meteorology. A plane, obviously, could not put out from New York for Paris without some knowledge of the weather conditions in its path; with its fixed limits of endurance, it cannot chance not meeting bad storm areas. It was Byrd who conceived the idea of weather reporting that aided so

many flyers last year and provided the nucleus of the meteorological reporting station of the future. This he did in collaboration with Dr. James H. Kimball, government meteorologist at New York and now better known as the "forecaster for flyers." When Byrd first began planning for his flight, there was no organization of this sort to help him. But there was no lack of spirit; within a few weeks the system was made ready and available long before the take-off.

Naturally, it was inadequate. Adding to the natural difficulties was the question of expense. Here the Radio Corporation of America and willing steamship masters along the plotted course came to his assistance, relaying messages gratis to Dr. Kimball and thence to Roosevelt Field. From them Byrd was able to cull a daily chart, carrying a fairly broad survey of conditions along his route, not only as to winds, but also as to the conditions of the sea, visibility and barometer. Haphazard as it was, at the time, it none the less provided the most advanced form of weather report for flyers in operation; and it must be said to Dr. Kimball's everlasting credit—for he is a most conservative man—that what he prophesied came true. And those successful flights, I dare say, would not have been possible if it had not been for Byrd's far-sighted preparations.

I fear I have gone far afield in this chapter from the subject of this biography, but it was done deliberately, the better to show Byrd against the background of aeronautics; to show what was happening to good airmen who undertook to prove what he set out to prove; and the chances they took. But more than anything else, it demonstrates the scientific caution of the man and his readiness, in recognizing the hazards, amply to prepare for them. The comprehensiveness of his plans foretold the disasters that befell

less adequately equipped planes. He had the wisdom to recognize the limitations of his aircraft for the journey he undertook, even as he sought to establish it as the "transatlantic plane of the future."

Only the thoroughness of detail carried him and his shipmates through those dreadful hours: through the hours of flight and, finally, the crash. Attention to such details as the three quarter-pound flares that flickered in the surf and guided them to a safe landing, and the rubber boats, victim of much raillery, that carried them to shore.

Even then, what did Byrd's flight actually prove above and beyond what I have already indicated? What did it augur for heavier-than-air craft as commercial transatlantic carriers? Can we reasonably expect the inauguration of a fast and efficient passenger-and-freight service over the Atlantic?

For all the tall talk of optimists, such a service seems doubtful for a long time at least. Of course there will be repeated flights. As long as there is glory to be won, men will try. Commerce, however, will not be so hasty as to entrust valuable cargoes to frail bottoms. The fundamental requisites of practical transportation are assured and consistent performance, plus a reasonable guarantee of safety. In overseas service, at least, the land plane is not yet able to promise that for some time to come.

Moreover, the uncompromising laws of power-loading fix the limit of the "pay load"—or passenger-and-freight capacity—and, naturally, considerably limit the margin of profit in this type of craft as a potential carrier.

With the exception of the *America,* each and every one of the transatlantic planes of 1919 and 1927 took off with not an extra pound of weight. They were cleared for action like old ships of the line. Only

Byrd took what might be regarded as the equivalent of "pay load"—a half a ton of equipment, which included rubber boats, radio, flares, extra instruments, etc. It is easy to assume this might have been translated into taxable freight. But surely it cannot be expected that passengers would undertake the trip, as a regular thing, without similar safeguards!

Byrd's own experience proved that. Though three times as powerful as Chamberlin's Bellanca, the *America* actually had a shorter cruising range and carried little greater proportional load. Clearly, then, the multi-engined plane, hampered by the same power-loading limitations as the single-engined craft, does not promise a spectacular future as a transoceanic vehicle. What Byrd did show, however, was that his ship was the first step in the right direction.

Of the three tri-motored planes that undertook missions last year—Hegenberger and Maitland's *Bird of Paradise* and the *America*—all achieved their goals. Less than fifteen per cent of the single-motored ships did the same.

Let us then, Byrd has repeatedly urged, temporarily drop the non-stop idea with its inherent and unavoidable dangers. The sane way to progress will be the development of a route with fueling stops at Newfoundland, or the Azores. At no time will the plane then need to carry fuel for more than twelve hours of flight. The smaller the fuel load, the greater the allowance for freight. And if the service is to be economically efficient and practical, freight or passengers must be carried.

But if such an interrupted flight is to be economically practical, what guarantee is there that the flight will be safe? In flight there can be no compromise; when the engine stops, the land plane, unlike the steamship, cannot float in its proper element. Its propelling

mechanism must give unbroken performance. This alone would seem to rule out the land plane as a reliable transoceanic carrier.

Byrd, therefore, sees a great future for the amphibian and the flying boat. If the motor fails, very well, the plane will come down, and the radio will bring help. In 1924, Commander Rodgers and his crew floated for nine days in the Pacific when a failing fuel supply brought them down. And a year later, on an attempted non-stop flight to Greenland, Locatelli, the Italian flyer, floated for eighty hours in the never smooth North Atlantic. He was forced down by fog.

And finally, there was the successful flight from Newfoundland to Scotland of the tri-motored Fokker *Friendship,* equipped with pontoons. This was a ship which Byrd had purchased for his own Polar expedition and, in the spring of 1928, sold to Miss Earhart. It was a brilliant flight, but its chief value was to show that, by taking a long chance, a seaplane could make the flight.

Even the optimists cannot shake off the history of those days of waiting at Newfoundland, while the *Friendship* futilely struggled to lift its heavy load, and how Stultz, its pilot, trimmed his fuel load to the last thin margin of safety—so drastically, indeed, that the plane came down in the surf with scarcely a drop of fuel in its tanks.

Pontoons mean extra weight. So do heavy hulls for seaplanes, if they are to withstand the pounding of the waves. All that means less margin for pay load.

But it means safety—the primary consideration. And in Byrd's opinion, the breaking up of the flight with intermediate stops, which will not only reduce the chances, but also lessen the load, will more than compensate for the extra weight.

Moreover, better engines will be built. Perhaps the

discovery of a super-energetic fuel, a new type of power plant, will overcome mechanical limitations. In time, transatlantic service by air will come.

"Perhaps in ten years," he once told me, "perhaps later. But come it will.

"Let us not be too hasty. The chances are still great."

Even as he spoke, half a dozen planes were tuning up on the other side of the water; the tri-motored *Southern Cross* had cruised spectacularly from California to Australia, and the drums of enterprise were sounding a mad march to the pilots who hadn't tried it the year before.

"I've come to believe," Commander Byrd concluded, as he looked out upon the quiet waters of the Charles River, hemmed in by the low-hung turrets of Beacon Hill and Cambridge, "that the airplane has provided man with a mechanical equivalent of the Crusades."

CHAPTER XIV

THE LITTLE THINGS THAT ROUND THE PICTURE

MOST of us are of the opinion that what Byrd has called "this hero business" is a most exciting state of mind. We are more or less prone to imagine, largely because of the influence of our journalistic romancers, that the preparation for his take-off for Paris was breathless, zestful, a rush and flow of suddenly unfettered emotions, vivid and heroic, in which the hocus-pocus of every-day life could find scant place. It is a pleasant illusion. As a matter of fact, such moments are the toughest and most excruciating of all, and full of petty, agonizing circumstances that would break a less elastic nervous system than Byrd's.

Here were four men casting their lives upon the fragile promise of the winds. During six long weeks their minds and souls had rasped against delay and waiting. That it might end quickly, they had made things ready so far in advance that there need be little or no fussing at the start. But when the time came, the hocus-pocus came, too, the ballyhoo, and the mad, time-wasting trampling charge of the hero-worshipers.

A hundred unexpected details popped up. An important monkey wrench vanished, presumably carried off by a trophy-hunter. Spot decisions necessitated last-minute instructions. Well-wishers, whose hands must be shaken, whose gratuitous advice must be respectfully listened to, massed for a final sortie. Per-

sistent admirers were clamoring for Byrd over the long-distance telephone. The autograph-hunters were not to be denied. A crank blurted into the conference circle, forcibly took Byrd by the arm and begged him not to go, because signs in the heavens foretold disaster. And in a corner of the hangar a pale-eyed woman, another self-constituted soothsayer, wept wretchedly because she could not halt this "folly."

It is one of the paradoxical sides of Byrd that he, a rigid task-master on the field, should suffer such interruptions. Surely they must irritate him, for he is finely strung. But he is always respectful. He listens attentively to every one, and smiles a comprehending smile. Then, as gracefully as possible, escapes.

To Governor Harry Byrd, whose political experiences had equipped him for almost any demonstration from the crowd, the wolfishness of onslaught was almost shocking. He returned to Richmond, tired and drawn, and wearily flung his hat upon a chair. His mother came in.

"Mother, this hero stuff is all beyond me," he told her. "It has politics beaten a mile. Dick can hardly call his soul his own. The crowd has taken it. Oh, it's funny enough, this cheering, shouting and excitement. But it's tough!

"Dick has the toughest job in the world."

That is one side of the picture. The other is no less bewildering. It is the hero's return. Twice Byrd has been the focal point of the most gigantic reception of which lower Broadway is uniquely capable, first when he returned from the North Pole, and again after the transatlantic flight; and no Roman emperor, returning from conquest, received a mightier acclamation.

What pageantry! What vastness, chaos and mass! Two millions of people blocked off on sidewalks, bob-

bing dizzily in the windows of skyscrapers. To those moving haltingly in the parade below, the world became a vast funnel made of the walls of skyscrapers, disgorging ticker tape, hastily mangled telephone books and a prolonged mesmerizing echo of inarticulate voices. There is no phenomenon in the world to compare with lower Broadway's welcome to a visitor who strikes its fancy.

The first reception left Byrd gasping. There was astonishment in his heart when he and Bennett walked through that mighty basin of tumult. What could it mean? Was this for them? Could a simple flight, calmly undertaken for science, have unleashed these emotions? Bennett, whose mind was never metaphysical, suddenly grabbed his arm.

"Holy Moses, Dick!" he shouted above the roar. "If they'd only put on this show at the North Pole . . ."

But Byrd barely heard. He was pondering, while his feet slogged mechanically through chaos.

When the second reception came, he met it with a strange understanding. The routine was almost the same as in 1926, but somehow lacking in explosiveness. Lindbergh had been up that avenue a few weeks before, and sapped it of its emotional steam. Perhaps that was why the tumult was less. Again, there may have been a deeper reason. The city had come to know Byrd. He had already experienced its maddest enthusiasm. His return this time was more like that of an old friend, a familiar figure whose deeds it had come to anticipate. And it suspected, I think, that the man, whose complexity of character it seemed instinctively to sense, possessed a loftiness of spirit that transcended mere vocal massage.

Byrd, too, had found an answer to this problem in "hero worship". I met him at the McAlpin, two

weeks later. The oratory had subsided gustily and, for the moment, he was free. We talked about the receptions, for I wondered how they affected him.

"Of course it was marvelous, and I was grateful. But let me tell you something." His slender right fist slapped audibly into the left palm. "The man who would let himself be misguided by it would be not only ungrateful, but a fool.

"It was not I—Dick Byrd—whom they were cheering. No, the instinct lay much deeper than that. It was just my good fortune to be the recipient. Down in their hearts was a more primal impulse. I was nothing more than the physical embodiment of hidden desires within each man. And what I had been fortunate enough to accomplish, was what each man—clerk, banker, messenger boy—for a moment vicariously accomplished within himself.

"In the public mind there is a strange glamour about all explorers. The desire to plunge into the unknown and the dangerous lies near the surface of the imagination, where it is quick to effervesce. It is for that reason that the explorer exercises a curious fascination for the crowd. They understand him. They understand the impulses that motivate him. He is human, themselves in hero-shape.

"But their cheers, their outpourings into the streets to see him, are not so much for him, the man, as for him, the idea. He is just a disembodied spirit."

That afternoon he put it to a test, and invited me to walk up Fifth Avenue with him to G. P. Putnam's Sons, where he was then working upon his autobiography. With scarcely a glance of recognition, he strolled unconcernedly up the thoroughfare where, a fortnight before, mounted policemen had to ride down the mob like Cossacks to prevent his parade from being submerged.

Possibly a dozen people recognized him, although nearly a million must have seen him that afternoon. Once we passed through a crowd that stood outside a store displaying his latest photographs, and there was a faint stir when he was spotted.

Byrd smiled as he turned into the doorway.

"You can see," he said, "that I am right. But I want you to know that I am heartily in favor of it all. Progress grows out of motion. A static hero is a public liability."

It came from him with cheerful spontaneity. It was essentially an impersonal observation, and part of his philosophy of life. He likes praise, naturally, because it often means sincere appreciation; and he is equally receptive to criticism because it is frequently sound. He has never set an artificial standard for his conduct, but lives according to his conscience.

His chief rule in life it to "have faith in your friends." A friendship betrayed, or a friendship lost, would cause him more anguish than bankruptcy. To that principle he has held unwaveringly through countless episodes, sometimes to his own loss. Friendship is the ore from which he mines his chief happiness. And with a passion that is almost aggressive he maintains that friendship in its pure essence gives the truest inner happiness.

That is why to-day, on the threshold of another great adventure, he stands with an unblemished record in public deportment. His philosophy of life may be idealistic, but it must be fundamentally sound for it has carried Byrd through three great expeditions without disastrous complications. Envy and malice grow quickly in the path of any spectacular career, nowadays. For this hero racket—as Broadway has come to call it—is a strenuous, dangerous calling, and the avenues padded with ticker tape at home hide more

pitfalls than the field where fame is won. Those who survive it without heartaches are few: explorers have been particularly susceptible to its hazards. A dozen explorers, whom I might name, have cherished some special grudge, so intense that they would not remain in the same room with the enemy. Such rancor grew up out of the most inconsequential things.

The natural sporting instinct in Byrd has preserved him aloof from bitterness, although there are undeniably men who are vaguely jealous of his career. He has always been fair and generous to his competitors, as was particularly evidenced during the trying days at Roosevelt Field. So, too, before he started for Spitzbergen. He went out of his way to meet Amundsen in New York, in the winter of 1925, in order to tell him of his plans. "It's too bad," the Norwegian said, "that you shall not be able to start with us from King's Bay." "Don't be so certain," Byrd interrupted smilingly. "We may get started before you do."

The desire to be first is as strong among explorers as it is on the race track. But public opinion is a stern judge of tactics. England never quite forgave Amundsen for the manner in which he beat Scott to the South Pole, although Amundsen, as fair a man as ever lived, can scarcely be believed to have deliberately deceived. When the Norwegian outfitted his expedition in England, the belief was general that he was preparing for another thrust toward the North Pole. Scott had made no secret of his destination. Amundsen and his ship left England, vanished for weeks, and when it was next heard from, was thousands of miles advanced to the South. Every one knows the heartache that was Scott's—his struggle to the Pole, only to find that Amundsen had beaten him by days, and the slow tragedy of his death on the ice.

So, when Amundsen returned to England, he was

the guest at an elaborate dinner. But the toast of the evening was not to the explorer; it was—"To his dogs, bless them." Knowledge of this situation, caused, probably, by thoughtlessness, caused Byrd to give Amundsen full information of his plans. The men became the firmest of friends, and the friendship deepened even after Byrd beat the other to the Pole. Meeting in New York months later, he and Amundsen and Ellsworth formed the most exclusive fraternity in the world—the Polar Legion—to be limited to the living leaders of expeditions that have reached either of the Poles.

The friendship between Floyd Bennett and Byrd was singularly rich and deep. There never was visible demonstration between them, on the field or in the business office. But the thousand and one irritations and difficulties of the first polar expedition had brought a true understanding, and the hardship at King's Bay had enriched this with devotion. A not uninteresting concomitant of his duality is the fact that they were of the same height and weight, detested cold with equal intensity, and their birthdays fell on October 25. To Bennett, glory mattered very little. The frail body that housed a mighty heart he willingly consecrated to another man's ambition.

I was with Bennett on the relief expedition to the German-Irish transatlantic flyers marooned at Greenly Island, on the rim of Labrador, that brought him to his death. He seemed deathly sick before the start. During the eight-hour flight from Detroit to Murray Bay, Quebec, the first leg of the 1,500-mile outward bound flight, he lay mute in his seat, his face yellow in the sickly sunlight that slanted through the oil-smudged windows of the cabin. His hands fell wearily from the controls and Balchen seized the wheel. But turn back?

"No, I'm quite all right, don't worry," he insisted, when Balchen permitted the motors to throttle down. "All I need is a bit of rest." He dozed, not restfully, however, for it was bitterly cold. Yet he seemed to gather strength and when the Ford landed at St. Agnes Lake, it was he who took over the controls and wheeled the big monoplane inside the bowl of hills and brought it to a landing. He refused to rest until he had made arrangements for the next—and final—hop to Greenly Island. That night he went to bed, and his strength drained away. We had put him up in a tiny cottage near the shore of Lake St. Agnes.

But send him back before the expedition was finished? Bennett lifted a wasted arm.

"You two get the hell to Greenly Island and bring those fellows back," he shouted in a husky voice. "I'll wait for you, and fly back with you."

It was five o'clock in the morning. The sun would be up soon, and he warned Balchen to get off soon before the sun got at the ice. Sluggish ice might mean a crash against the low-hung hills with the heavy ship. As we turned to go, without much faith in the wisdom of his determination, he called:

"You might send a wire to Dick and let him know that I'm all right, and he needn't worry."

Two days later they rushed him by plane to Quebec. His condition was desperate. He had taken a sudden turn for the worse and pneumonia developed. Byrd, in Boston, without waiting even to pack a bag, dashed for the first train and caught it by the skin of his teeth. Lindbergh, making one of the greatest of his flights, bored through a thunder-snowstorm to land on the fields of Abraham with a precious supply of serum.

For forty-eight hours Byrd remained at the bedside of the great flyer. The end was inevitable. The spirit drained the reservoirs of physical energies, and

there came at length coma. But just before it came, Bennett rose a bit on his shoulder, looked into his commander's eyes, and said: "I'm afraid it won't be long now, Dick. You—just—carry through—for me."

Then he died—as fine, as courageous, as modest a man as ever handled a stick, unflinching to the last. It was the ending of the truest friendship between men that I ever knew. That it nearly wrecked his South Pole expedition, then in its most critical formative stage, mattered nothing to Byrd. For awhile he lost interest in everything. The death of the man he had trusted most of all left a vacuum in his life.

I recall the day, shortly before the transatlantic flight, when Byrd came out with shining eyes and told newspapermen that the doctors said that Bennett could chance motoring out to the field, to see the *America*. His legs were mending, although still in braces. He hadn't seen the ship since the crash.

Byrd tried hard to hide his feelings, but there was not a reporter there who didn't feel the joy in him. He said spontaneously:

"I'm going to tell you something. He'll be second in command of the South Pole expedition."

Somebody cheered, and all joined in. Even those who had never met Bennett saw through Byrd's emotion his conception of Bennett as a man. On Byrd's part it was a quick, unplanned gesture. It was the greatest honor he could give the friend whom he had lifted from obscurity, and who was his closest comrade.

To Byrd, this deep comprehension and sympathy is the true and inner significance of friendship. And, in giving it, he is able to command from his men a thorough and bracing fealty; he has emerged from each hazardous expedition without leaving behind a trail

of smarting feelings. His men recognize his fairness and his loyalty.

Take the case of George Tennant. He had sailed the seven seas for more than twenty years and, in 1925, hearing of Byrd and his plans to fly across the Pole, presented himself in due course of time in New York, having traveled from China to do it, and announced he would go along, too. Byrd signed him on as cook.

When the expedition disintegrated upon the return to New York, Tennant sought out the Commander. "I just want to tell you, sir," he told him, "that I'm going to the South Pole with you. I'm shipping out to Turkey because I haven't got money enough to hang around. But I'll be back."

That was in 1926, and Byrd had expected to be off and away to the Antarctic by the fall of 1927. For eight months there was no word from Tennant. Then one day, while Byrd was testing the *America* at Roosevelt Field, a broad-shouldered and somewhat rotund man hoisted himself through the ropes and started toward the plane.

A policeman rushed out and tried to push him back. "Where's your card?" he demanded. "Card me eye!" retorted the cook. "I've traveled eight thousand miles to get here and I ain't goin' to be stopped by a tin policeman." They grappled.

Byrd heard the struggle and dissolved it. Then he recognized Tennant, and the two went off arm in arm.

"I was in Australia," Tennant told him, when the felicitations were over, "and I read where you were goin' to fly the Atlantic. 'Well,' I said, 'I'd better be back for that.' Every time I'd get on a ship, I'd find it was goin' somewhere else. I've been on eight of 'em, and it's been some job."

So George Tennant hung around for more than a

month, simply to see Byrd off. Ten hours after the *America* had vanished in the mist, Tennant himself was in the galley of a freighter bound for the Far East with a cargo of machinery.

"Just killin' the time," he explained, "between now and the South Pole. I'll be back."

His word was as good as his ham and eggs. Six weeks before the South Pole expedition was under way, Tennant was at the Hotel Biltmore, hat in hand, eager to get into harness again.

The same spirit has pervaded Byrd's various organizations. The loyalty that had grown up in George Tennant was as deep in each member of the unit. The "Old Guard," Mulroy, Demas and Ukulele Dick Konter, who invariably shoulder the brunt of the work, is its nucleus, and about them spreads a spirit of camaraderie. Light-hearted fellows, with immense capacity for work, uncomplaining, made patient by struggle, they are as dependable as the day is long.

To them Byrd would willingly deflect the tide of hero-worship that flows to him. He fully realizes their worth and is unwilling that the men behind the guns should be forgotten. It was no idle gesture when he dedicated "Skyward" to "Those who have stuck by me through thick and thin; in the front rank of whom are Floyd Bennett, Edsel Ford and my always splendid shipmates."

There was sincerity, too, I know, that splendid night in Washington when President Coolidge presented him with the Hubbard Gold Medal for his flight across the Pole. The long training Byrd had in public appearance had not equipped him for so dramatic a moment. He was unnerved, and his voice at first was faint and tremulous. But it became firm and resonant when he closed:

". . . I receive this medal thinking of them (his

shipmates) and of my flying mate here, Floyd Bennett, who deserves credit above any one of us. As for me, what I have been capable of, I owe the Navy. All my training has come from her.

"We did not go up there for reward. We expected none except that our efforts might make some contribution to progress."

But reward came to Byrd, and it was inevitable. His temperament, magnetism, will power and training led him into the spectacular paths. Although his stature is slender, his spirit is herculean. His broad, high forehead, above wide-spaced and blue-gray eyes; his regular features, perfectly formed mouth, the graceful disorder of his gray-black hair, lend themselves easily to the mental sculpture of the hero-makers.

In New York, particularly, this business of welcoming the returning hero idol is no mean affair. Something like $70,000 is spent for immediate preparations —grandstands, policing, banquets, the hiring of automobiles, etc. This does not include the terrific business losses caused by the unexpected holiday. One big department store lost something like $65,000 each time the city opened its arms to a transatlantic flyer. It is obvious, then, that no one thus honored could ignore the demands such a benevolent municipality makes upon his personality.

Yet, sincere tribute though it is, it must be the most excruciating experience in the whole range of human experiences. I have seen Byrd go through two of them. Each time I marveled he emerged sound.

The day he boarded the cutter which was to take him to the Battery, after the North Pole trip, he found it down to the gunwales with the sheer weight of welcomers. Each one, perhaps, was a celebrity in a way. Others were friends of politicians, or had influence to

secure a pass. The band piped merrily. It was a splendid holiday.

When Byrd came aboard, the rush to greet him threatened momentarily to overturn the ship. A score grabbed at his hand at once. "Commander, glad you're back. Meet my friend—" Another: "You've got to have dinner with me to-night. . . ."

An important personage dashed up. "I represent the Mayor's Committee. You are to lunch to-morrow at the—" Every one had a different demand. The reporters were charging through for an interview. He stood bewildered, in this whirling chaos.

And at the fringe of the human pinwheel, his brother Tom, who had been trying to get near enough to greet him, was rudely pushed into the background and kept there until some one in authority realized the blunder and cleared the way. The meeting with his family brought more swift joy into Byrd's face than I saw during the next four days. It was hard for him to realize, at first, that the thunder of the headlines had robbed him of personal proprietorship, that he was no longer an isolated man, but a public belonging, as available to view as the Grand Cañon.

The giant reception France gave him prepared him to a certain extent for the ovation at New York. Everywhere he went he was lavishly fêted. Paris, Dunkirk and Calais made him a citizen of each municipality, and the Mayor of Calais postponed three weddings in order to accord this honor to Byrd, kept the impatient couples waiting for hours at the town hall. "Marriage is a fairly common ceremony in France," he commented lightly, "but you, sir, come to Calais but once."

He must be forever on guard against the slightest contretemps. At Caens, he learned that the Prince of Wales was visiting a nearby resort incognito; the

Prince's equerry arrived, and brought word that His Highness was very eager to meet the aviator again. "But you cannot meet the Prince at a gambling resort," protested an officious local statesman. "You must think of your reputation." Byrd laughed him aside, and went. The Prince expressed surprise at finding him in France. "The last time I met you," he said, "I thought you were going to the South Pole. How, may I ask, does your mail keep up with you?"

Throughout his stay in France, there was the ever recurring perplexity of what should be done with Charles Levine. Clarence Chamberlin had joined the *America* group, and there was much speculation as to whether or not Levine should return to the United States and share in the joint reception.

Pressure was brought to bear on Byrd to resist, as far as he could with gracefulness, any attempt to merge the receptions. Byrd declined to play politics. "Regardless of whatever other elements there may be in the situation," he replied, "Levine is a brave man. It is true, is it not, that this reception is in recognition of bravery?" Levine, however, did not board the Leviathan, but instead remained in Europe, where he became the playboy of the skies.

Enmeshed as he is in public affairs, Byrd has always fought to keep his family out of the reach of publicity. He is afraid that the constant photographing of his children will give them false ideas. Dickie, the son, has already reached that age of wisdom where he reaches for the paper to see where "father's picture is," and, perchance, his own. Not easily has Mrs. Byrd been able to accomplish the detachment she desires, for it is her belief that Commander Byrd's personal life should remain personal.

She was in Boston at the time he flew over the North Pole. Naturally, the telephone bristled with inquiries

from newspapers: What did she think about it? What did the children say when they heard that "Daddy" flew over the Pole? Had she heard from the Commander? As gracefully and sweetly as she could, she refused all interviews. Then an army of reporters came to camp on the doorstep at 9 Brimmer Street, hoping to break her silence. Her plea that Commander Byrd did not desire that sort of publicity, that his flight should be news enough, did not convince them. For days, her home resembled an armed camp.

The crisis came one day when a tall and lanky Boston reporter rang the doorbell, pushed past the maid and demanded that he be permitted to see Mrs. Byrd on a "very important matter." He was so aggressive that she consented to see him, and entered the beautiful living room. She is a rather tall, slender woman, with large brown eyes and soft brown hair. As she introduced herself, she begged to be excused from any sort of an interview.

"I know that," answered the reporter impatiently, "but you'll change your mind." Whereupon he sketchily plotted out a story his paper had obtained: a story that she and Commander Byrd had separated and were no longer in communication with each other, that his paper was in possession of the facts and would print the story

"Do you mean to say," she asked, bewilderedly, "that you would dare to print such—a lie?"

"Yes," he answered. "We have the facts." But his self-assurance was ebbing.

When the door was shut behind him, Mrs. Byrd telephoned all the newspapers in the city and asked that a reporter be sent to her home at once. When they arrived, she met them all in the living-room, a large, beautifully furnished room, full of rare relics of the period of the French Revolution. Then, in calm tones

masking the hurt that provoked them, she told them the story that the other newspaperman had brought, and asked them to judge its truth for themselves. It was an unfair thing to do, a cowardly subterfuge in order to obtain an interview. She did not desire privacy from the press simply because of personal reasons, she explained to them. Could they not understand that she felt her husband was the person in the family that accomplished the things that interested them? That both he and she were agreed it would be wise and proper that the private life of the family should remain private. It was so quiet in the room when she finished, that one could hear the subdued ticking of the clock in the next room.

The newspaper people went away, and the story died a natural death. In these days of sensational and inquiring journalism, the modern celebrity, who must necessarily dwell in a glass house, usually reconciles himself to the philosophical conclusion that an astigmatic world will hurl a brick or two. Still, it was the only instance of the sort encountered by the Byrds. Their relations with the press have been unusually free from the rush and clamor attending the publicizing of most celebrities.

When her husband was flying across the Atlantic, a girl reporter entered his home unannounced, penetrated Mrs. Byrd's bedroom and refused to leave until she had observed what she termed her "reactions." "I'm awfully sorry," the girl explained, "but I must get my story." As she departed, she apologized for her intrusion. "I understand," Mrs. Byrd answered wistfully, "but I can't accustom myself to this."

Byrd himself enjoys the respect of newspapermen to a degree not often witnessed, for the relation between the press and its subject are often strained and hurried. Bitter and embarrassing questions are proposed, and

the facts that the one seeks the other cannot always give without jeopardizing his carefully laid plans. Through these complexities Byrd has moved easily, confidently and pleasantly. Although never a publicity seeker, his availability to the press is unusual in a man of his standing and importance. For there is none of the temperamental impatience of the prima donna about him; no vituperative lashing of photographers and reporters. Heaven knows, when time is precious, their insistence becomes irritating enough.

"Theirs is a legitimate interest in a public undertaking," he once explained to an indignant skeptic. "The press has helped aviation more than any other agency I know of. And these men have jobs to protect, even as you and I."

This attitude has caused him to be one of the few latter-day demi-gods whom newspaper men approach with real friendliness. His manner is always disarming, cordial. Rising from his desk, he introduces himself: "My name is Byrd."

Possibly the calmness with which Byrd, whose mind is always restless, accepts the complexities of his public life derives from his own knowledge of the realities of circumstance. When he met hero-worship in its first, fine flowering, he was confused. Often he thought of how nearly he and Bennett escaped disaster on the frozen plains of King's Bay; of the agonizing seepage of oil from the engine on the flight to the Pole; of the seconds that became eternities as the *America,* sucking a gale in its teeth, dropped into the darkness of the surf on the French shore; and of the fear that eats away men's hearts when death peeks out of little, unforeseen holes. It is a very thin veil indeed, he realized, that separates failure from disaster. A more stable tribunal than the mob now sits in perpetual

judgment upon the merits of his deeds. It presides within his own heart.

Byrd is probably the most widely connected clubman in the country. If he carried to the South Pole the emblems of the various organizations to which he belonged, there would be room for little else in his plane. In addition to his many decorations, he holds a number of honorary degrees. Yale made him a Master of Arts; Tufts, a Master of Science; Georgetown, a Doctor of Literature; the University of Virginia, a Civil Engineer. He was made a member of the Phi Beta Kappa of the latter school. It is one of his regrets that Harvard, although he made real sacrifices to study there, did not recognize him in this way.

He is a man of a thousand and one banquets given up and down this country. Mayors in many cities have deluged him with the full flood of oratorical lore, and nearly one million people have grappled, to squeeze his hand, which is, curiously, as delicately built as that of a violinist. The fine viands at the banquets he barely tastes, for his diet is very strict. To the oratory he listens with charming interest. And the handclasps he has learned to counter with a grip that saves his bones.

On his lecture tour he spent weeks at a time on trains, sleeping and dressing in cramped berths. He rarely travels in a stateroom. He travels as he lives—frugally; not out of penuriousness, but because he cannot afford to do otherwise. On one tour alone he delivered one hundred and ten lectures in seventy days, each lecture taking anywhere from an hour to two hours. And always, before and after lectures, there are the locally constituted reception committees to cope with. Yet, where less patient and determined men might collapse, he is vigorous, gracious and untiring.

Brought up an aristocrat, sought after with such avidity that a calendar, more than a clock, should

guide his appointments, he is thoroughly democratic. The men he meets casually, unexpectedly, he enjoys. There are few barriers to his door.

Years ago, when he was less widely known he was at Squantum, and he used to swim quite frequently at a beach resort near Boston and near the Navy Yard. It was a rendezvous for broken-down pugilists, teamsters, motormen and laborers.

In general it was an orderly group, but horse play was the rule of the house, and that frequently meant roughness. The calmer ones usually prevented manslaughter at the more boisterous sessions. It was no place for a man who couldn't stomach kidding and who, when honor and dignity made an aggressive gesture imperative, pulled his punches.

Byrd became a favorite there because he could fight. His handball game was excellent. In an impromptu boxing match, which turned into a slugging affair, he crashed a bully who outweighed him twenty-five pounds. Then, three days later, he was initiating half a dozen of them into Socratic philosophy. That he was a naval officer none of them learned until years later, and that was after he had returned from the Pole.

While giving a lecture in Lynn, Massachusetts, one night, he was astounded to see one of the old gang come up the aisle. Then the man had called him "Dick," but now he diffidently approached with the salutation "Commander."

"Don't be silly," Byrd cried, shaking his hand warmly. "I haven't changed that much. How is the crowd?"

"I want to ask you a question or two," said the other.

"Shoot," Byrd answered.

"You're really the Dick Byrd who used to swim at—"

"Yes," Byrd answered, somewhat puzzled.

"And you're the same guy who flew over the Pole?"

"I must say, yes."

"Holy Smokes," the gentleman ejaculated, "when I think of what we used to say to you!"

Whereupon Byrd promptly forgot the dignitaries who hung about him, and plunged into reminiscing with this man. "Wait until I tell the gang about this," the other told him.

Three days later there came from the fellow a smallish bundle. It contained a letter and a watch, a treasured gift, Byrd had lost, where he never knew.

"I want to tell you," the letter said, "that one of the fellows found this watch at the beach, and thought it belonged to you. Not knowing where you lived, he couldn't return it. But knowing that it probably was worth a great deal to you, he kept it in the hope he would meet you again some day.

"I wish you could have seen some of the lads when I told them you were one and the same guy who flew across the Pole. You could have knocked them over with your little finger."

It is characteristic of Byrd, this feeling for old friends. It transcends all situations. I remember the day he stepped from the *Leviathan,* then bringing him back from the transatlantic flight, aboard the *Macom,* which had come to the Narrows to pick him up. The atmosphere quivered with the impact from half a hundred tug boat whistles. A gaudy armada of commercial and pleasure craft lay in far-flung array to greet him. It was spectacular and vibrant. But Byrd's eyes paused over it only for a moment.

"Hey, Bill!" Far removed from the crowd that rimmed him in, he spotted an immediately familiar face. It was a reporter, a former instructor at Harvard, with whom he had spent two hours in earnest discussion of philosophical principles before the take-

off. That was the first time he had met the reporter. Out of it had mushroomed an amazingly strong friendship.

"I have met many important men," I heard that reporter say later, "but nothing touched me more deeply than that shout of recognition by Byrd."

His code of conduct is rigid; once his word is given, he will move mountains to keep it, however trivial the obligation may be. He has raced thirty miles in a taxicab in driving rain to keep a lecture appointment made before consulting a time table. Some of his advisors at times had criticized this strictness. People will understand, they say, that he is overloaded with tasks. His health is more important.

"I'm sorry," he told them, "but I have given my word." His eyes don't smile when he says that.

Probably the most striking example of this tenacity lies hidden in the chronicle of the *America*. You remember how he had pleaded that the plane be flown to Rome, and it was insisted that he land at Paris. And how, as the plane cruised into France, it found a mass of storm clouds in its path. Then and there each man in the crew realized that the toughest part of the journey lay before them, and the chances of a safe landing were perilously thin.

What was to prevent them from sliding diagonally across the storm path, into the whirling southern rim of the storm and letting it whirl them directly toward Rome? The fuel tanks still held a plentiful margin for the extended flight. The storm itself, if they rode the whirling edge, would give the motors a lusty push. Surely there would be more glory in it for all, for would not the ending be the more spectacular because of the element of surprise?

The thought of such a course must have rushed through Byrd's head as his ship bored into the tumult.

To plunge straight through to Paris meant to jeopardize his ship, risk his life and that of his shipmates. And, finally, he had studied storms and many times, in his discussion of possibilities before the flight, he had dwelt upon the theory of riding the edge of a gale.

Whether his mind did dwell upon the alternative I have never learned. If it did, it must have been abruptly dismissed, for the *America* never once wavered from the course he set. Because he had given his word, he plunged ahead; because he had given his word, he held the *America* to the last critical minute over Paris, in the desperate hope that the fog would break up long enough for him to cleave through and complete his mission.

There was nothing heroic about it. Indeed, Byrd never discusses that phase of the flight. He took everything calmly, and in the line of duty. Yet that flinty toughness of purpose struck off a chronicle of daring and skill which has never been equaled in aeronautics. Columbus, faltering through to America, faced no greater nor more terrifying unknown than Commander Byrd and his shipmates found in France's soupy fog.

There was just one incident in the flight that aroused his ire. It was the tremendous currency given the report that he had been lost, that the *America* never had come near Paris, but had floundered in erratic circles over the interior. It was a hard blow to Byrd's pride as a navigator, and he struck back.

"At no time were we lost!" he exclaimed. "If we had been lost, it would have been impossible for us to find our way back to the sea where we hit at exactly the point we intended. Every student of navigation knows that only by constant knowledge of our position could we have accomplished that."

He was more than gratified, therefore, when Costes and LeBrix, the French flyers who made the first non-

stop flight across the south Atlantic, went out of their way upon their arrival in New York to inform him that they had heard his motors that night in the fog above Paris. Since then Byrd has received more than half a dozen letters from other residents of the French capital, who have volunteered corroboration.

Into every phase of his life, business and private, he carries a singular devotion to detail and fact. In one of such large vision and so overburdened with obligations, it is surprising to discover such meticulousness. Not long ago he wrote an important article for one of the more important magazines. It was a rush job and, because of the pertinency of the text, the editors were anxious to incorporate it in an immediate issue. The day after the article was submitted, Byrd informed the editors that he wanted to make certain changes. Already up against the dead-line, they tried to dissuade him on the ground that the corrections were trivial.

But Byrd was implacable. He had his way and the manuscript was returned for correction; and the magazine was held up until he had made his changes. Several times, during his career, ghost writers have trifled or been careless with facts under his signature. He takes a strong pride in his craftsmanship and when he undertakes a task, whether it be writing a technical article or repairing his son's toy automobile, he will not consider it done until every part trues up.

His capacity for work is prodigious, and the demands made upon his time have necessitated a Lacedæmonian regimen. As often as he can, he carries out his day by clockwork. He rises early, usually before seven o'clock, invariably takes a chilling bath, and delights in a prolonged and perfect shave. He rarely gets more than seven hours' sleep, and it is often less. Yet he expressed astonishment at the energy of re-

porters at Roosevelt Field who, during many hectic days, frequently went forty-eight hours without sleep.

Walking is his chief delight, and his day does not begin officially until he has walked at least two miles. In addition to that, before breakfast, he exercises briskly in his own room, certain exercises that he has largely invented to train special muscles. It is this, he contends, that enables him to keep going at high speed. If he had his way, he would compel every man on his expedition to do the same.

His usual walking companion is his son, whose young legs are not quite capable of matching strides with his father. He, therefore, pedals along on his toy automobile, and sometimes Commander Byrd returns home with Richard the Third tucked under one arm, and the rather cumbersome automobile balanced on the other. The big Irish cop on the beat who has children of his own has come to have a fondness for Byrd, and invariably offers him advice on a number of things.

When he is in New York, Byrd rises early and walks alone, planning his schedule for the day. When he returns, his mind is fresh and clear, and he is ready for a seventeen-hour day. The greater part of his morning, he devotes to correspondence, which is one of the greatest tasks in his day.

A woman begs him to take her on his next expedition—a nice old lady, "fifty-seven years old," she writes, and she thinks that the boys should have a strong-minded woman to mother them at the South Pole. An Iowa farmer, citing many cures, confidently discloses a panacea for rheumatism which, he has found, works just as well for horses. A boy who has been in the hospital wants an autograph. An airplane company demands specifications for certain equipment. A magazine editor wants a number of articles. And so they go, whole sacks of such letters, the bulk

of them trivial and prompted simply by the curiosity people have in celebrities.

It being one of his quiet boasts that he answers all his correspondence, he is often hard put to keep abreast of it. For that reason, when he travels, he is accompanied by a secretary, and dictates *en route*. On an overnight journey, he becomes so absorbed in his task, that Pullman porters recognize him less as the explorer than as the man who has his berth made up last.

He takes pleasure in the theater and, for all his exactness in other things, in plays he enjoys a musical comedy at times quite as much as a problem play. During the winter season, when he is in New York, he tries to see at least one show a week. He enters quietly and unexpectedly, and is always surprised when he is abruptly introduced to the house from the stage. He forgets that when his secretary reserves tickets, she does it in his name.

It is in his reading that he exercises greatest discrimination. His time for relaxation is so short, he finds, that he cannot afford to waste those few moments he can spend in reading. History is easily his favorite study, and he reads a great deal of philosophy. He enjoys light fiction, particularly so-called mystery or detective stories. He likes Kipling immensely.

At this period in his life, he has tended to mold his philosophy upon a pragmatic basework. He leans toward the useful and the sincere. His loyalty to his country is astonishing in these days of dehydrated patriotism.

He is always the same, courteous, thoughtful and eager. Although he has bent over backward to avoid capitalizing his tremendous publicity, he will go without dinner to make an appearance for some worthy cause. He has never endorsed a cigarette advertisement, al-

though he smokes. He has turned down such offers totaling, I have hastily estimated, many hundreds of thousands of dollars. To do so, he is convinced, would be to stultify the purely scientific career he has laid out for himself.

All in all, his is, and has been, a singularly orderly, sound and full life, and he fights tenaciously to keep it so. Although he moves more often than not through chaos, the fine patrician strain in him demands precision. He tries to keep his desk clean; the books in his library orderly; his brief case free from overdue matters. But every now and then the pace in his office becomes too swift. He loses weight. And Mrs. Byrd, who is a wise and gentle woman, insists that he return to his Boston home for rest. He invariably does.

There are times, I know, when he envies the happy freedom of his brother Tom. Perhaps this incident will illustrate what I mean. One night an unrecognized voice called up the Byrd mansion at Richmond on the telephone and asked:

"Hello, is Byrd there?"

Tom chuckled.

"No, this is Byrd's brother, though."

CHAPTER XV

TO THE LAND OF THE BLIZZARD AND THE ICE AGE

COMMANDER RICHARD EVELYN BYRD has turned his course to the bottom of the world, on another errand bent. The years of never-resting ambition and dreaming have focused in this greatest expedition of all: a two-year sojourn in the home of the blizzard, where winds blow more than 100 miles an hour and the eye meets endless desolation; where a great continent of the world is now racked by the throes of a glacial age. So, this man who is impatient of the turmoil and the pressure of the great cities, where by necessity of circumstances he must lay his career, whose spirit seeks the peace and mysticism of virgin horizons, gratifies this longing through the grating of the *Larsen's* steel-sheathed prow on the shores of the Bay of Whales, at the foot of the towering land of ice.

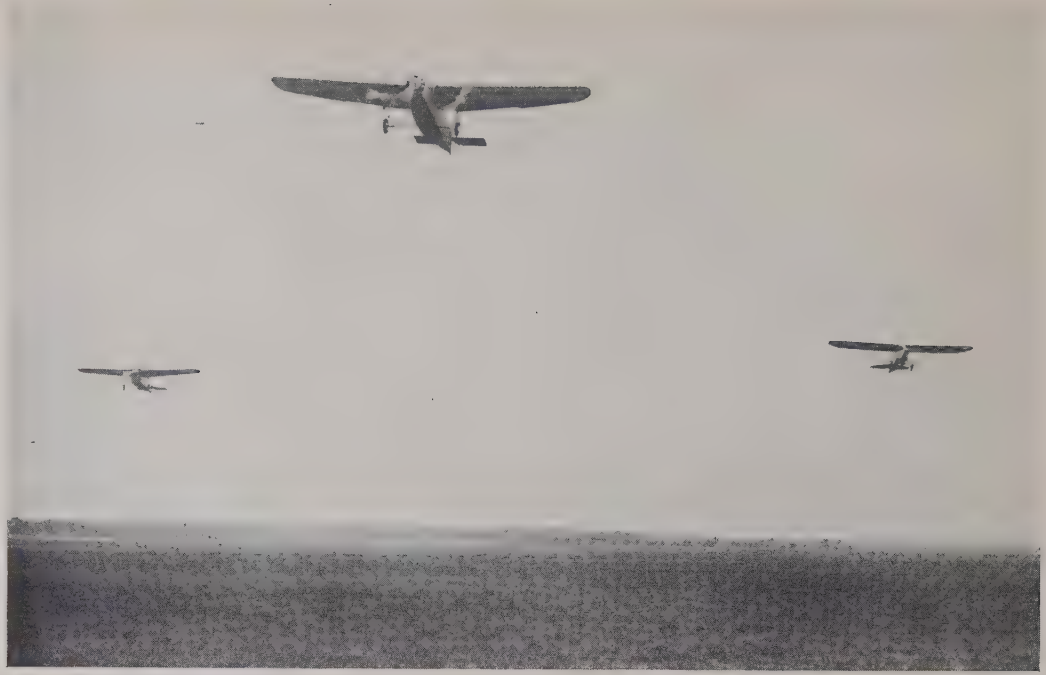
The desire to go to the South Pole was born in Byrd almost simultaneously with his desire to journey across the top of the world. Since that wish was first cast in the romantic mold of boyhood, it has undergone a subtle metamorphosis. There is still much of the mauve romanticism about it—the ecstasy of standing poised before purple horizons yet to echo with the cry of the human voice, the clamor of man in his progress. Not even the inescapable materialism of all his expeditions has yet destroyed this charming vitality of illu-

sion in Byrd. It wells within him from an inexhaustible reservoir.

But the mission he has drawn up for himself and the men who have accompanied him makes no mention of romance in its program. In its first phase, it is the carrying out of Byrd's broad lesson in super-mobility—in the demonstration of the astonishing flexibility of the airplane in the conquest of the greatest "white spot" on the map of the world. Broadly it has called for two years of extensive exploration of the greater part of 5,000,000 square miles of unknown territory, an area almost as great as Mexico and the United States combined, and across which half a hundred expeditions, during the past century, have traced only a few thin lines from which men have drawn their knowledge of the lonely continent of the south.

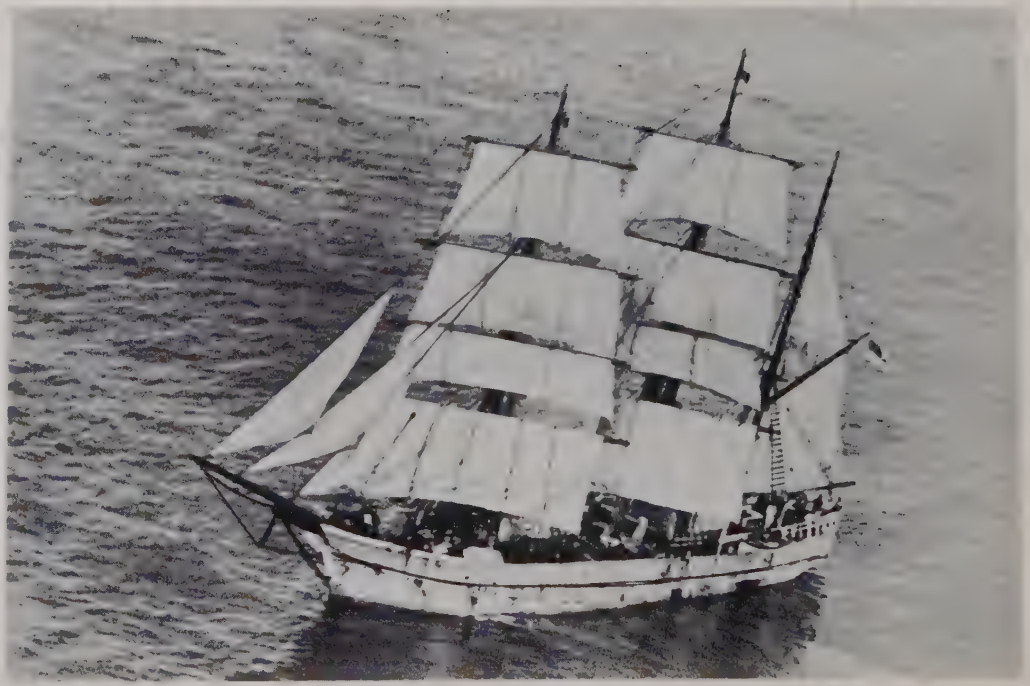
In the comfort and the seeming completeness of the city, men often wonder why a man like Byrd must plunge into the Arctic whiteness. It is so far away, and one cannot easily understand what possible benefit can derive from such far-flung exploration. Surely, it does not seem reasonable to assume that either the great areas of sea enfolding the North Pole or the mighty plateau of ice supporting the South Pole will readily yield to the march of civilization. Here Byrd is spending a million dollars for exploration. What possible good can come of it? Granted the airplane can cross the South Pole, map out the bulging mountains before which explorers on foot were compelled to pause—yet what does it benefit mankind?

The value of Arctic exploration, abstract though it unquestionably is at the moment, is now being impressed upon the world. Although four centuries of effort failed to bring the short-cut to the Indies that ships of commerce sought, the three major aeronautical ventures to the Pole, during 1926 and 1928, closing with



Wide World Photos

The airplanes of the expedition to the South Pole are the last word in efficiency, speed and equipment.



Wide World Photos

Heading into the Antarctic. Byrd's ship, *City of New York*, with all sails set for southern seas.

the dreadful disaster of Nobile's great gesture for Fascism, have proved beyond peradventure of doubt that the mythical Northwest Passage that commerce seeks lies not through the polar seas, but over them. The flights of Byrd and Amundsen, Ellsworth, Nobile and Wilkins across the Pole have substantially filled in much of the unknown geography. The need, therefore, for further exploration in the Arctic has immensely decreased, but the necessity of commercial utilization of the area is on the increase.

In spite of the failure of Nobile, the Arctic is astonishingly amenable to the use of aircraft. The flights of the *Josephine Ford* and the *Norge,* undertaken with reasonable precautions, proved that. The atmosphere above the flat expanse of ice is free of disturbances most of the time, and Byrd has repeatedly declared that the excellence of Arctic aerology, insofar as the airplane is concerned, is unmatched in most countries where flying is extensively done. A glance at a globe will show that the North Pole lies almost at the true center of the inhabited portions of the globe. The shortest distance between the great world centers—New York to Peking, Seattle to Moscow, London to Tokio—lies over the polar seas. In the ceaseless competition for control of markets, out of which comes national prosperity and eminence, the controllers of commerce must sooner or later recognize the potentialities of this short-cut, hewed out by Byrd and Amundsen. The airplane will respond to improvement. And the day may not be distant, measured in terms of progress, when commerce will be shuttling between these great capitals, over the frozen sea, in the bottoms of dirigibles or airplanes.

One might well hesitate before attempting to fix the coming of this day. Still, the Germans are building a dirigible capable of 7,000 miles of unbroken flight. Its

great range, in time, will be exceeded. And scientists of the Soviet government, looking ahead of the moment's necessity, have already taken the lead in organizing an international society, represented by explorers from the twenty nations with claims in the Arctic, the purpose of which is to encourage polar flights and the ultimate development of new routes. This group, the Aeroarctic Society, has undertaken the task of changing the paths of pioneers into new world highways, and, as a first step, its cartographers are now engaged in locating a number of meteorological stations which may later be utilized as landing fields by airplanes and mooring places for dirigibles.

Granting this possible development of the Arctic, what can Byrd hope to be accomplishing in Antarctica?

Down at the bottom of the world, isolated from the great land masses of the globe, is Antarctica, girdled by broad reaches of ocean, and domed by ice. No four-footed animal scurries across this plateau: not a tree or a blade of grass grows on it, though it is broader than all of Australia. While this continent is assumed largely to fill in the area circumscribed by the Antarctic circle, its exact boundaries are not known. The irregular bulging territory at the bottom of the globe on one's library table is not the work of geographical accomplishment. It is a hypothetical profile, the contours of which are only the continuation of explored coastline, which, according to that esteemed geologist, Sir Douglas Mawson, has been explored in less than 150 degrees of longitude. The rest has yet to be scanned by human eyes.

For convenience, Antarctica has been divided into four great quadrants, each of which is named after the lands or seas to the north. The Australian quadrant is that portion of the continent facing the broad southern coast of Australia, 1,800 miles away. The

South American quadrant, on the other side of the globe, is conspicuous for the hooked peninsula, known as Grahamland, and projects toward the foot of South America. Here, only 850 miles of sea separate the tips of both peninsulas. The African quadrant lies south of Africa, 2,400 miles being the assumed distance. And the last quadrant bears the name of Pacific, because it skirts the Pacific Ocean.

Of the 5,000,000 square miles of territory embraced within these divisions, only the barest facts are known, although for two hundred years explorers have sought to learn their secrets. Stout-hearted men have disembarked at various points on its far-flung shores, and struggled inland as far as feet and sledges could carry them. On the coastline, the total contribution of their endeavors has been the mapping of the outer fringe of the Australian quadrant and a comparatively minor arc of the American quadrant. The coastlines of the Pacific and African quadrants remain, for the most part, white spaces on the map.

Even more striking is the lack of knowledge of the topographical structure of the interior. With the exception of a few lateral excursions, the most important of which was undertaken by Scott, man's sole knowledge of the depths of this ice-sheathed world is practically encompassed by the converging polar routes of Amundsen, Scott and Shackleton. Obviously, then, the profile of this continent has yet to be fixed in 210 degrees of longitude—more than half the circumference of the globe. That task in itself will take years of patient exploration. And many more must elapse before the chaos and confusion inland are charted to the satisfaction of geographers.

It is a fascinating world into which Byrd ventures: an area as rich in deeds of enterprise and daring as any

on this globe; and it is historically important, perhaps, that Byrd has ventured forth on the 200th anniversary of the birth of the man who first set out to discover the great continent of the South—Captain James Cook. Although he penetrated the Antarctic Circle four times on his famous cruise, Cook failed to discover land, returning home quite convinced that even if land were discovered, as he thoroughly believed it would be, no possible benefit could be derived from it. Blocked by ice, beset by storm, he concluded in his memoirs, that he had terminated "the search for a southern continent which had engrossed the attention of maritime nations for 200 centuries."

Moreover, Byrd's expedition follows that of the American naval officer, Charles Wilkes, the man who put Antarctica on the map, by exactly ninety years. Even as Byrd's enterprise is the most elaborate aeronautical expedition assembled for explorational work, so Wilkes' was the most elaborate maritime expedition that ever put out under the American flag. The organization bore the title of the United States Exploring Expedition, and was officially authorized by Congress. Five ships, all of them wretchedly prepared for the rigors of Antarctic climate, put out from Hampton Roads on August 18, 1838. Four years passed before he returned; two of his ancient sailing ships were lost; his men endured the most terrible of hardships, but they found the Southern Continent, "an immense land mass, 3,000 feet high and covered with ice," and named it the Antarctic Continent.

Ross, who had been into that portion of the globe ten years before, and who had found the great sea named after him, was skeptical of Wilkes' claims. Charging that the American naval officer's maps were untrustworthy, Ross was responsible for the British prejudice that Wilkes had never reached the Continent.

Martyrdom is the reward of many explorers, and Wilkes had his share. He did not come home in chains, as Columbus did, but he was court-martialed; and for nearly a century a world-wide controversy revolved about the authenticity of his claims. Now that he is long since dead, they have been verified and his name is attached (at least, on most American maps) to the broad sweep of coast facing Australia, stretching eastward from Victoria Land to Wilhelm Land.

It is a curious thing that commerce nudged the doors leading to the great unknown of the south, even as it had at the top of the world. While explorers were plunging into other wildernesses, strong-hearted whalers, questing for the vanishing cetacean, the humpback, finback and blue whale, were moving ever southward as the whaling grounds of the north were depopulated. In time, these whaling vessels eventually pursued their quarry to the edge of the continent itself. But of what these sailing masters saw and learned, science remained in doubt, for whaling was a more important business with them than science, and the location of the virgin waters teeming with fish life they guarded from their competitors.

But toward the end of the nineteenth century, the explorers of the world turned seriously to the great Antarctic. Peary and the others were hammering at the portals of the North, and many of his competitors, despairing of ever crossing the top of the world, turned toward the South Pole. In the first group of men to set foot on the new continent was Carsten Egeberg Borchgrevink, who shipped as a common seaman from Australia to explore Victoria Land. This was in 1895. Five years later he returned with his own expedition, landed on the edge of the great ice field, and pushed inland as far as 78° 34″.

The story of Borchgrevink's path-finding spurred the

others. By the end of the first decade of the new century, the flower of Great Britain's explorers were assembling for the great drive upon the southern axis. Sir Ernest Shackleton's expedition of 1907 had pushed to within 97 miles of the Pole before compelled to retreat and, although he failed to reach his objective, he determined, for the first time, the true position of the magnetic pole. And Scott, who for more than ten years had been struggling in the interior, made ready for the great dash that ended so gloriously, and yet so sadly.

The indomitable Amundsen, by a brilliant coup, stole southward, penetrated the floating ice in the Bay of Whales, landed his ship on its ice-clad shores, and in 1911 pushed to the Pole itself. Imagining a great plateau greater than the United States, whose center lies at a point hypothetically coinciding with Chicago, one might more easily comprehend the length of the sledging journey that Amundsen undertook. But it is not sufficient to picture the dangers that were his. For the South Pole lies on the dome of the plateau that is the highest shelf of its kind in the world, averaging 10,000 feet at the Pole itself, with peaks as high as those to be found in the Rockies. From this far-flung plateau, rolling down to the sea on every side, emerge winds of the most astonishing velocities—winds so powerful they hurl great blocks of ice as easily as if they were pebbles, driving particles of snow until they strike with the impact of rifle bullets.

To appreciate the blizzards which Byrd faces, one needs only to read the story of Scott's last expedition. Reaching the South Pole in 1912, thereby realizing his life's ambition, he found evidences of Amundsen's visit a few months before. Heart-broken, he turned back, planning to retrace his steps over the relief bases he had planted in advance of the final dash. When only

ten miles from the first of these bases, a terrific blizzard fell upon them, so intense it hurled men down as they walked, and so thick that one man could not see his comrade ten paces away. Unable to continue, Scott and his companions sank in the snow and awaited a diminishing of the winds. But the blizzard blew with unmitigated force for ten days, and the debilitated men perished of hunger. To the very end the greatness of spirit that was theirs buoyed them above the buffeting of Nature in its vilest mood. With hands that were trembling and weak, they built a great cairn and there deposited the priceless geographical specimens they had gathered in their scientific traverse to and from the Pole. When their last resting place was found, the cairn stood over them like a mighty monument, a monument to the beautiful vision of man and the inadequacy of the means he must employ.

Byrd enters this continent through the indentation that is Ross Sea. Long before he strikes the mainland, he meets the pack ice that Ross had described, and which he despaired of traversing. This sea lies within a great breach in the continent, and it is rimmed in on both sides by towering promontories. Byrd's three ships pick their way through the ice, past immobile stretches of pack ice such as he saw in the polar seas, and head into the Bay of Whales, the name of which comes from the fact it is the greatest playground for the cetacean in the world to-day.

Here, on the rim of the bay, he will first strike the continental ice, and a magnificent vision is opened to him. In the frosty clearness to his left towers the gray-white profile of the mountain ridges of King Edward VII Land. Somewhat to his right rise the slopes of the ice barrier—a broad-faced, triangular plateau of solid ice, hundreds of feet in depth, whose base fronts Ross Sea and whose bulging sides converge upon

the Pole. Here, almost on the same spot where Amundsen landed nearly two decades ago, Byrd and his shipmates disembark. Hundreds of miles to the right of them, on the western promontory, is the locale of the starting place of Scott's great expeditions—the rim of the Australian quadrant.

Probably no other point on the continent affords such a good landing place for ships, as Amundsen shrewdly figured out. The ice descends to within a few feet of the water; the area is comparatively free from storm, and the waters are liberally inhabited by fish life. Moreover, the broad expanse of shelf ice provides Byrd with a splendid runway for his airplanes, and the comparative temperateness of the climate renders it particularly adaptable to the establishment of the main camp. The great belt of mountains on the western promontory, rising almost sheer from the shelf ice and containing the snow plateau of the interior would have presented almost unconquerable difficulties to aircraft.

Once Byrd's ships discharge their thousand tons of cargoes; once the three planes are on the ice, and tested in the shadows of towering cliffs, Byrd turns his eyes toward the hinterland. To the south—toward the Pole—a frozen crest of ice rolls and undulates softly, beautiful, into the sky. Far beyond are the mountains that buttress the ice-domed plateau, scarred by the progress of mighty glaciers, the great cliffs and troughs of which bear mute testimony of the terrible conflicts born of the ice age. In the abysses of the trough lies the débris of mountains demolished by the inexorable thrust of glaciers; the lofty peaks of the higher mountains, blackened and worn by the torrent of winds of a hundred centuries, rise starkly into the sunlight, their shaft-like sides rubbed so smooth that neither ice nor snow can find a resting place.

Here, then, Byrd's flying machines must face their greatest test. The plateaux of the interior, a veneer of ice upon a basement of land, range in height from 8,000 to 11,000 feet. Once more, therefore, he must challenge the limitations of load imposed upon present-day motors. The three-engined Ford monoplane *Floyd Bennett,* which carries him in his polar flight, must first of all lift its load over the mountain tops. Then, flying more than *two miles* above *sea level* in order to avoid scraping the floor of the plateau, it must still possess a sufficient reserve of power to enable it to ride out any storm that might threaten to dash it against one of the mightier cliffs, or into one of the yawning fractures.

Realizing that the Ford possesses a maximum altitude of 14,000 feet (that is, carrying twenty-two hours supply of fuel, which is necessary for the 1,600-mile flight from the main base to the Pole and back) the hazards that lie in Byrd's path are strikingly emphasized. But Byrd goes forward upon this expedition with a carefulness of preparation that is incomparable. Before the actual flight to the Pole is undertaken, his planes, cooperating with dog-teams under the leadership of the famous dog-team racer, Arthur T. Walden, will lay down a chain of emergency bases, one hundred miles apart and liberally equipped with spare parts, fuel and oil, food and clothing, to within four hundred miles of the Pole: indeed, to the very foothills of the mountains that form a containing girdle to the plateau. Thus, if motor failure should compel a landing, or if a gale should deplete their fuel, Byrd and his crew can descend, make what repairs are necessary, and continue.

Moreover, his two other planes, while ostensibly integral parts of his explorational machinery, will be held in readiness for relief at the base. A short-wave

wireless set will be a part of the equipment of the *Floyd Bennett,* and this is in constant communication with the radio operator at the home base throughout the flight. Once more he is consistently broadening his factors of safety to the utmost limits of science. But, in view of the task he contemplates, they must necessarily be spread thin. If his plane is dashed into any one of the stupendous channels carved in the land ice, the chances that it will ever be observed by the relief crew cruising in the skies are few. If he and his flying mate escape uninjured, they must run the risks of making their way back on foot. Surveyed in the most optimistic manner, it is a daring enterprise that Byrd has tackled. On no place on this globe, as Byrd has repeatedly pointed out, is it so easy for man to fail so completely as in the polar whiteness; and no medium of travel is so susceptible to brilliant accomplishment, or ignominious failure, in this proving ground for human heart and science, as the airplane. No one is more conscious of this than Byrd; yet he undertakes it all with extraordinary calm, with the wise caution of a man who appreciates the risks, and the gallant nonchalance of the adventurer who contradicts them.

His has been a painstaking problem of preparation. Difficult as was the groundwork in advance of his polar flight, this expedition has been trebly so. Although he began building his organization less than a week after he returned to New York from the transatlantic flight, his routine work was not completed until the day his flagship, the *Larsen,* sailed from San Diego, bound for Dunedin, New Zealand, where it has rendezvous with the other two vessels of the fleet of the Byrd Antarctic Expedition—the *City of New York* and the *Eleanor Bolling,* which he named after his mother. Starting as an idea, the expedition emerged as a com-

prehensive organization, and, probably for the first time in history, Byrd placed exploration in the ranks of Big Business.

In the fall of 1927, the explorer began his plans in the suite he occupied at the Hotel McAlpin. Of money he had little. His staff consisted simply of a secretary, and his business of a series of conferences. Within a few months, he moved into a tiny office just off Fifth Avenue, provided him by his publishers. A few old-timers of the polar expedition joined him. A filing system was purchased, and typewriters. Things began to move faster. By the spring, the Byrd Antarctic Expedition had grown to such proportions that it was moved to a suite at the Hotel Biltmore, and there it functioned to the end.

To this phase of exploration, Byrd brought to bear the full flowering of his extraordinary genius for organization. Unable to handle the countless details alone, he surrounded himself by a group of competent men. Under his direction, they gathered from all corners of the earth the tons of equipment needed for the enterprise, loaded them aboard the ships, and, in the face of discouraging difficulties and impediments, actually got under way according to schedule. A young man whose only knowledge of ice conditions, Byrd has wittily said, was limited to that afforded by the open end of a Jersey City ice wagon, Richard F. Brophy, handled the major burden of the routine work. Detail, detail, detail . . . thousands of minute things to be attended to. Ships to be purchased, and nails to be bought; big airplanes to be made ready, and ships to be stored for the two years' siege of the Antarctic. Byrd's office at the Hotel Biltmore resembled the headquarters of an explorer less and less, and that of a modern business executive more and more, as the days went past. Half a dozen secretaries worked at high speed; a buzzer on

a telephone switchboard buzzed continuously, and a telephone operator was forever announcing: "Admiral So-and-So is anxious to talk to Commander Byrd." "Mr. So-and-Such, President of the Gimlets and Gadgets Company, wants to speak to the Commander," and so on, ad infinitum.

The offices were piled high with miscellaneous equipment—dog sleds from the Yukon, instruments from Germany, samples of portable houses from Norway; pemmican from Greenland; fur muclacs and reindeer gloves from Alaska. Whoever has started a business of his own can, perhaps, comprehend the scope of the enterprise undertaken by Byrd. He must, perforce, fare forth to build a modern city on the edge of the ice barrier, where no city has existed before—a city more modern than many in the heart of civilization, capable of sustaining itself for two years, of operating a fleet of airplanes, of supporting a dozen scientists engaged in pure research, and, finally, of sufficient elasticity to withstand the buffetings of Nature in a place where it has retained full control.

To gather the most nearly perfect materials for this new city-capital of Antarctica, Byrd was compelled to draw upon the resources of the world. Cablegrams were exchanged between half a dozen countries in a quest for the most suitable piece of equipment, for in all this rush and turmoil Byrd stood calmly determined in his insistence upon perfection of detail. There was much creaking and groaning of unused machinery when his organization first began to function; but toward the end it was running with the ease and elasticity of a well-drilled unit. Not a pound of food, a piece of wood, or a bit of clothing, indeed, not a portion of the more than one thousand tons of stuff that he is taking with him, was packed in the holds of his transports until it had been carefully examined. All this

took time—days and days when every moment might have been devoted to seemingly more important things —but it was accomplished.

Byrd now goes forward with a clear conscience, with the realization that his equipment, down to the last pound, has been of the best. Too often, indeed, Arctic explorations that might have been successful have fallen into the columns of disaster. Had the estimable Scott been better prepared, his tragedy might have been avoided. The brave man is often inclined to reason that resourcefulness and courage will carry him through, come what may. Equally brave is the man, or the scientist, as the case may be, who looks well to his factors of safety, submits himself to the ennui of detail, and delivers himself, insofar as he humanly can, from preconceived and necessarily vague causes of failure. Throughout the summer of 1928, Byrd and his indefatigable henchman, "Faithful" Brophy, worked often long after midnight to insure the proper shaping of the hybrid elements that they must introduce into their expedition. No other, it seems reasonably safe to state, has gone out so well equipped, or promised so much.

Difficult as was the task of gathering together the equipment, that of selecting the men who would go with him was one to try the patience and the wisdom of Solomon. Approximately 10,000 men, enough to staff an army, volunteered to go with him. They ranged from the dishwasher in a small-town restaurant where Byrd happened to drop in for a quick bite, to the sons of millionaires. To a man, they bristled with eagerness to accompany him. Adventure and excitement was their shibboleth, and they clamored for the privilege to participate in what Byrd calls "the last challenge." Tall men, short men; fat men, thin men; men who were unmarried, and men who wished they

hadn't; scholars boasting of doctors of philosophy parchments, and lads whose scholarly accomplishments were nil; bronzed-faced sailor men who had seen the spires and turrets of ports of every sea, and thin-faced lads who did their traveling between the lines of a Cook's Tour brochure—so they trooped into Byrd's office, waylaid him on the street, pleaded with him in letters from every corner of the country. If he undertook to take them all, he would have required the services of two Leviathans, and then a municipal government on the ice barrier to manage them.

Requiring only seventy men, Byrd was compelled to make "no" the most repeated word in his vocabulary. Yet he is a peculiarly sensitive man, and sympathetic toward the spirit that inspired them. Having endured frustration so long himself, he sensed it in these applicants. He followed no rote in choosing them. What he wanted in his men most of all was "spirit—spirit of mind and spirit of courage." Many of these had no more experience in Arctic conditions than can be gained from the snow that lies on the East Side before the clamant sweepers get at it. But they are fiery young men, glad to be a part of his gallant company.

In the main he built his personnel around the old-timers of the North Pole expedition—Tom Mulroy, chief engineer of the *Chantier,* who nursed its old boilers as if they were made of china; "Ukulele Dick" Konter, man of all jobs and a wizard with anything that emits noise; Chips Gould, whom Byrd proclaims to be the world's leading virtuoso with a hammer and saw; Professor William C. Haines, meteorologist who gave him the word to go on the North Pole flight; Joe Deganahl, newspaper reporter, son of a millionaire; Hansen, the Navy radio officer who stowed away on the *Chantier*—all men who have learned that expe-

ditions mean work, and are joyous none the less at the prospect of being part of another.

To this hard-bitten nucleus Byrd slowly added a bunch of other tried men. There is Charles J. McGuinness, chief officer of the *City of New York,* soldier of fortune, veteran of the African War, a brigadier general in the Irish Army, four times shipwrecked, a man whose heart is as broad as his brogue; Dean C. Smith, air mail pilot, veteran of the hardest flight route in the world; the delightful Bernt Balchen, veteran pilot of two of Amundsen's polar flights, who was the hero of the transatlantic flight, son of a famous Norwegian surgeon and descendant of a long line of explorers—men who pushed into the pack ice of Spitzbergen through ten generations. His uncle accompanied Nansen on his famous trek across Greenland; a cousin, Dieterichsen, was Amundsen's famous pilot, who perished with the explorer on his attempt to rescue the crew of the *Italia.* There is Arthur T. Walden, son of a famous minister, but who himself rushed into Alaska and for seven years drove mail and supplies over the terrible divide. He will have charge of the hundred or some dogs. There is Professor Lawrence M. Gould, geologist and geographer, seasoned in many expeditions in and around the Arctic Circle; and Harold June, naval pilot, a pleasant-faced lad who served among Harold Vanderbilt's "million dollar crew" when the latter's yacht went to war.

So they run . . . men of all ages, from all walks of life, some rich and most of them poor, veterans and greenhorns, but sharing alike an *élan* vital as the men who went with Marco Polo, or Columbus, or John Paul Jones must have possessed. One senses at once the power of leadership that radiates from this man of forty, to carry this heterogeneous group so far from home, to dare to face the chilling perils of the ice bar-

rier, the mental oppression of the unknown. Byrd picked them all, and he is proud of them.

"They'll wear well," he said. "I know it is hard to judge what a man is going to do when the temperature drops to eighty degrees below, when the Antarctic night lasts for four months, and the wind blows so hard that it wrests a fifty-pound box out of his hand. That's a chance one must take. But these are splendid fellows. I am confident of every one of them."

When the *City of New York*—the old whaling ship *Samson,* renamed in honor of the city from which he ventured forth on all his expeditions—put out to sea, Byrd was down at the dock in Hoboken to see the first of his men off. A sailing ship, it had been equipped with an auxiliary motor, but even then its speed was barely eight knots an hour. The vessel poked into the river, and a hundred people on the docks, wives and sweethearts of those aboard, were cheering and weeping. One was reminded of men going to war. Then, early in September, the *Eleanor Bolling,* with all the planes stowed in its hold, put out from Norfolk, Va., and Byrd, thinking the first part of his task was done, turned back to New York.

But his task was just intensified. Reaching the Hotel Biltmore, he was met by his chief of staff. The man's face was long, and his eyes were worried. The reconditioning of one of the ships had cost seven times what it had been estimated. Instead of a deficit of $150,000, the expedition owed $300,000. And this just ten days before Byrd was to start for the West Coast, to depart on the *Larsen.* Fate, as it had to Peary, was even then "clenching her fist for yet another blow!"

And lashing his will was the same competitive impulse that sped him to the North Pole in 1926. The Australian, Sir Hubert Wilkins, organizing a small,

but compact expedition, had just quitted the United States for the Antarctic. Since those heart-breaking efforts in 1926, Wilkins had profited by experience. Like Byrd, he never lost faith in the airplane. When all except those who knew him well had lost faith in him; when even the newspaper syndicate that was backing him, refused to renew, he bided his time in Alaska; and in the spring of 1928, he and his pilot, Ben Eilson, drove the skeptics to cover by flying from Point Barrow to Spitzbergen *in a single-engined monoplane*. It was as daring a flight as was ever made, born of patient faith and executed with splendid resourcefulness. And it presaged greater accomplishment in the Antarctic.

Already the drums were beating the march, and the world was keyed somewhat to the thought that another polar dash was on, with two of the most famous explorers in the world to-day as competitors. It was splendid stuff with which to excite the imagination, this thought of eager preparations on the rim of the bottom of the world; of men hustling a sluggish, resentful Nature into yielding to their plans. Yet both formally eschewed the suggestion of competition, have patiently assured all who will listen that, while each stands pledged to help the other in any way possible, neither has set as the objective of his expedition the desire to be the first to fly across the Pole.

Indeed, Wilkins announced that his program does not include a flight across the Pole, and is limited to a series of lateral studies in and through Graham Land. Be that as it may, there was a report in currency that he had been promised a reward of $100,000 if he beat Byrd to the Pole. Priority, after all, is the natural thought in any explorer's mind; history gives its italics to the Columbuses, the Lindberghs, the Byrds, the Pearys, the Amundsens. And what would be more

natural than that Wilkins, finding that the scientific problem he has set for himself calls for broader effort, should turn toward the Pole itself?

Like Byrd he knows the Antarctic through books and the experiences of those who have been there. But this knowledge, in the case of Wilkins, has been enriched by three years of personal experience. In addition to having been chief of the scientific staff of Shackleton's 1921 expedition, he was second in command of the British Imperial Antarctic Expedition the year before.

With two of his ships then on the high seas, Byrd faced the collapse of all his plans. He could not possibly go on, and leave these bills behind him. Neither did he possess enough money himself, or resources, to accept the burden himself. But he stiffened instead of dissolving under pressure. Within an hour after his return, Byrd was making the round of his friends—of bankers and philanthropists, business men and bankers. With fine courage, courage that hurt deeply, he put aside the plans he made for spending his last week with his family at his Boston home. He instead remained in New York, sleeping in the same room where he worked through the day, and Mrs. Byrd came to New York to him. During that last week, he slept but little . . . perhaps four hours a night at the most. And the worries that already were enough to choke his spirit were abruptly heightened by reports that the *City of New York* had been caught in the hurricane that devastated Porto Rico and Florida. Two days, while the storm raged in her path, there came no word from her. Must it mean that Fate had delivered the greatest blow?

But no—finally there came a wireless that it had beaten its way from the storm, but by the narrowest of odds. The news brightened the gloom of his material

troubles. So Byrd attacked his task with renewed effort, and the end of the ten days saw the erasure of half the deficit. Tired, even exhausted, Byrd returned to Boston for the last two days, thanking the gods who guided his footsteps. Watching him there, one would never have suspected that he was leaving on his most distant errand of all, so orderly and unchanged was the tenor of the household.

The time to go—the time, too, for the loveliest rite in the Byrd household, when the children go to bed. First of all there is Helen, the youngest, and then Eleanor Bolling, then Catherine, and then Dickie. One by one, as they have done ever since they learned to walk, they quitted the spacious living room and slowly mounted the stairs. And even as they had always done, they delayed the process, with the wilful and universal instinct of children to defer going-to-bed while the grown-ups are still up, as long as possible. "Good-night, Daddy. Good-night, Mother," the voices came down the stairway as they moved upward, becoming dimmer and dimmer until, as they reached their respective bedrooms, only the voice of Dickie, whose room is at the top of the house, came faintly from above. "Good-night, Daddy."

Byrd turned away . . . turned to the ice barrier, and two years of struggle.

Will he find that Antarctica is really two continents instead of one? That under the incalculably deep dome of ice there runs a deep channel uniting Ross Sea and Weddell Sea, on the opposite sides of the profile of this great unknown?

Will he discover, perhaps, immensely valuable mineral deposits in the recesses of the ice? Or the secrets of the winds that howl across the plateau, and which scientists believe some day, when other means of power

near exhaustion, men may harness to their own mighty machines?

Will he and his scientists discover the baffling secret of the ice age that holds Antarctica in thrall—the tremendous refrigeration, accompanied by pulsations that moved the earth, which ushered in the world's greatest glacial era and unleashed an immense flood of ice, hundreds of feet thick, from the effects of which, in conjunction with the aperiodic glacial incidents in other parts of the world—sprung the conditions that produced mankind and modified the conditions of his life?

There is, in these uncharted questions in the book of man's knowledge, a strange blending of the spiritual with the material, a blend that is Byrd himself. Whether he finds the answers or not, he will carry on, amid the terrible sublimity of Antarctica, with the same tenacity of purpose, the same patient, unswerving, often impersonal pursuit of fact and truths with which he has endowed his life course—a purpose and pursuit that has been carried to a pitch and compressed to a shortness of time unmatched in the history of exploration.

THE END